(32,006)

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1926

No. 439

UNITED FUEL GAS COMPANY, APPELLANT,

vs.

THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA, BIRK S. STATHERS, ERNEST D. LEWIS, ET AL.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

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IN THE

DISTRICT COURT OF THE UNITED STATES

FOR THE

SOUTHERN DISTRICT OF WEST VIRGINIA.

No. 1517. In Equity.

UNITED FUEL GAS COMPANY, a Corporation,
Plaintiff,

vs.

THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA, BIRK S. STATHERS, ERNEST D. LEWIS and JAMES J. DIVINE, constituting said The Public Service Commission of West Virginia; HOWARD B. LEE, Attorney General of the State of West Virginia; and FRED M. LIVEZEY, Counsel for said The Public Service Commission of West Virginia,
Defendants.

BILL OF COMPLAINT AND EXHIBITS "A", "B" AND "P. S. C. OPINIONS" FILED THEREWITH.

HAROLD A. RITZ,
Solicitor for Plaintiff.

LOVETT PRINTING CO., LAW PRINTERS, CHARLESTON, W. VA.

IN THE

DISTRICT COURT OF THE UNITED STATES

FOR THE

SOUTHERN DISTRICT OF WEST VIRGINIA.

UNITED FUEL GAS COMPANY, a corporation,
Plaintiff,

vs.) IN EQUITY.

THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA, BIRK S. STATHERS, ERNEST D. LEWIS and JAMES J. DIVINIE, constituting said The Public Service Commission of West Virginia; HOWARD B. LEE, Attorney General of the State of West Virginia; and FRED M. LIVEZEY, Counsel for said The Public Service Commission of West Virginia,
Defendants.

To the Honorable George W. McClintic, Judge of the District Court of the United States for the Southern District of West Virginia:

United Fuel Gas Company, a corporation, brings this its bill of complaint against The Public Service Commission of West Virginia, Birk S. Stathers, Ernest D. Lewis and James J. Divine, constituting said The Public Service Commission of West Virginia; Howard B. Lee, Attorney General of the State of West Virginia; and Fred M.

Livezey, Counsel for said The Public Service Commission of West Virginia, defendants, and respectfully shows:

FIRST.

United Fuel Gas Company is a corporation, duly organized and existing under and by virtue of the laws of the State of West Virginia, and is a citizen and resident of said State, and is engaged in the production, transportation, distribution and sale of natural gas for light and fuel within and about several cities, towns and villages in the said Southern District of West Virginia, the principal thereof being the City of Charleston, situate in the County of Kanawha, in said Southern District, and the City of Huntington, situate in the County of Cabell, in said Southern District, and is also engaged in selling said natural gas, so produced by it, to other companies or distributing systems, by which it is sold to the inhabitants of other states of the Union for the purpose of fuel and light; and that the principal office and place of business of said United Fuel Gas Company is at the City of Charleston, in said Southern District of West Virginia.

The defendant The Public Service Commission of West Virginia is a body created and existing under and by virtue of an Act of the Legislature of West Virginia, passed on the 21st day of February, 1913, and known as Chapter 15 of the Acts of the Legislature of 1913, entitled: "An Act to create a Public Service Commission and to prescribe its powers and duties, and to prescribe penalties for the violation of the provisions of this Act"; and is exercising the powers conferred by said Act, as the same was originally passed, and also conferred by the amendments made to said Act by subsequent legislation. The said Commission has its principal office in the City of Charleston, in said State, and within said Southern District of West Virginia, and is constituted as hereinafter set forth.

The defendant Birk S. Stathers is a citizen of the State of West Virginia and a resident of the City of Weston, in

the County of Lewis, in the Northern District of said State.

The defendant Ernest D. Lewis is a citizen of the State of West Virginia and a resident of the City of Clarksburg, in the County of Harrison, in the Northern District of said State.

The defendant James J. Divine is a citizen of the State of West Virginia and a resident of the City of Welch, in the County of McDowell, in the Southern District of said State.

The last three named defendants are the duly appointed, qualified and acting members of said defendant The Public Service Commission of West Virginia, the said Birk S. Stathers, under the provisions of law creating said Commission, having been designated to act as chairman thereof and now exercising the powers and duties thereof.

The defendant Howard B. Lee is a citizen of the State of West Virginia and a resident of the City of Bluefield, in the County of Mercer, in the Southern District of said State, and is the duly elected, qualified and acting Attorney General of the State of West Virginia, and is charged with the duty of enforcing the laws of said State.

The defendant Fred M. Livezey is a citizen of the State of West Virginia and a resident of the City of Huntington, in the County of Cabell, in the Southern District of said State, and is the duly appointed, qualified and acting counsel for said The Public Service Commission, under and by virtue of the provisions of law, and is charged by law with the duty of enforcing the orders of said Commission.

SECOND.

This suit is of a civil nature, in equity, and is brought for the purpose of enjoining the enforcement of an order of The Public Service Commission of West Virginia, entered on the 24th day of March, 1925, refusing to allow the plaintiff to increase its rates for furnishing natural gas to its customers in the State of West Virginia, as

more particularly stated hereinafter; and the cause of action hereby asserted arises under the Constitution and laws of the United States, in that the rates which plaintiff is required to charge, because of the aforesaid order, are confiscatory of its property used and useful in furnishing service within the said State of West Virginia to the public, and the said order and the proceedings of the said The Public Service Commission deprive the plaintiff of its property without due process of law and deny to the plaintiff the equal protection of the laws, in violation of its rights under the Fourteenth Amendment to the Constitution of the United States, and said order is therefore null and void, as is shown more fully hereinafter.

The amount in controversy in this suit exceeds the sum or value of Three Thousand Dollars ($3,000.00), exclusive of interest and costs.

THIRD.

That prior to the 26th day of April, 1924, certain maximum rates or charges were fixed by the defendant The Public Service Commission of West Virginia, which the plaintiff was permitted to charge for the service rendered by it to its consumers in said State of West Virginia, the same being shown by the schedule hereto attached and made part of this bill, marked EXHIBIT "A".

That after conducting its business with its patrons in West Virginia under the schedule aforesaid for a considerable length of time, plaintiff discovered that it was impossible to operate the same so as to yield to it a fair return upon the property used and useful in the public service and to pay the expenses of conducting said business. It thereupon, on the 26th day of April, 1924, filed with the said Public Service Commission a schedule of increased rates, with rules and regulations, under which it proposed, after the 31st day of May, 1924, to furnish natural gas to its customers in the State of West Vir-

ginia. Said new schedule of rates and rules and regulations accompanying the same, were filed with the said Public Service Commission pursuant to the provisions of law of the State of West Virginia requiring such a schedule to be filed before any change could be made in the rates or practices then being used. A copy of said proposed schedule of rates, containing rules and regulations as aforesaid, is filed herewith as part hereof, marked EXHIBIT "B".

That immediately upon the filing of said schedule of rates, as aforesaid, to-wit, on the 26th day of April, 1924, the said defendant The Public Service Commission entered an order, by the terms of which it purported to suspend the putting into effect the said schedule of rates and rules and regulations, and forbade this plaintiff to use the same in the conduct of its business and in the delivery and sale of its product to its consumers, until the 22nd day of August, 1924, and ordered that a hearing be held, with a view of determining whether or not the plaintiff should be allowed to establish the rates and rules and regulations shown by said schedule, or any different rates than those already being charged by it, and has, by successive orders, continued such suspension in force until the entry of its final order herein on the 24th day of March, 1925, to which more particular reference will be hereinafter made.

FOURTH.

That by the order entered on the 26th day of April, 1924, suspending the rates proposed to be established by this plaintiff, the said Public Service Commission also set down for a hearing the matters arising upon the said schedule of rates before the said Commission for the 28th day of May, 1924, and on the said 28th day of May, 1924, the plaintiff appeared before said Commission for the purpose of showing that the rates then in force and effect, and still in force and effect, did not furnish to it an adequate return upon the property devoted by it to the pub-

lic service. That extensive hearings were had before said Commission upon this question, commencing on the said 28th day of May, 1924, and continuing, intermittently, until in the month of January, 1925.

The said plaintiff showed before said Commission the value of its properties and the value of the part thereof devoted to the public service in West Virginia. The properties of the plaintiff consist of the gas rights in a large acreage of land, to-wit, over 800,000 acres, situate in the Spencer, Clendenin and Kanawha fields, in the State of West Virginia, and the Triple State field, in the States of West Virginia and Kentucky; and, in addition to the gas rights in this acreage, said properties also consist of a large number of producing gas wells, of extensive transmission lines or pipe lines through which the gas is conveyed from said wells to the points where the same is distributed and delivered to its distribution systems, and of a large number of distributing lines in the various cities, towns and villages supplied by it, through which said gas is conveyed and delivered to its customers.

Said plaintiff procured an inventory and appraisal of all of its property to be made by a firm of independent engineers and appraisers, to-wit, the firm of Ford, Bacon & Davis, of New York City. This appraisal was made by the engineers and agents of said firm by actual observation of each piece of property upon the ground, and was made under the direct supervision and charge of Charles F. Uebelacker, an engineer of many years' experience in such business. Mr. Uebelacker and his corps of assistants not only made an accurate inventory of each item of property owned by the plaintiff and used in its business, but also appraised the value thereof as of the date of the making of said report, to-wit, the 31st day of December, 1923; and further, observed the condition of each item of property as to the extent that the same was deteriorated, and fixed the value thereof in its deteriorated condition.

The said firm of Ford, Bacon & Davis found that the reproduction value new of the plaintiff's said property, as

of the 31st day of December, 1923, was the sum of $74,493,601.00; that its present value—that is to say, its value after deducting from the value new the amount of observed deterioration,—as of the same date, was the sum of $66,070,496.00. Of the foregoing amounts, the sum of $36,449,176.00 was fixed by Mr. Uebelacker, of said firm of Ford, Bacon & Davis, as the value of the gas rights owned by the said United Fuel Gas Company, and the balance thereof, to-wit, the sum of $38,044,425.00 was fixed as the value of the Company's physical properties or plants, as of the 31st day of December, 1923, if the same had been entirely new, and the sum of $29,621,320.00 as the value of said physical properties and plants in their then deteriorated condition. It will thus be observed that in the physical properties, consisting of pipe lines, compressor stations and other such properties, there was observed by the engineers making said appraisal a deterioration of $8,423,100.00

The said appraised value of the Company's property above given, to-wit, the sum of $38,044,425.00 for the plant new and $29,621,320.00 for the plant in its deteriorated condition, was, for convenience and for the purpose of determining what part thereof should be attributed to the public service in the State of West Virginia, divided into what is termed by the engineers the "production system", "transmission system", "distribution system", "general property", "general overhead charges" and "working capital", including materials and supplies. The item of "production system" includes the property used in producing the gas and delivering it to the pipe lines of the Company to be conveyed to market. The "transmission system" includes the Company's pipe lines and compressor stations used in transporting the gas for delivery to its wholesale consumers and for delivery to the systems in the several cities and towns where it is engaged in the public service business. The "distribution system" includes the value of the plants, including the street mains, meters and all other devices used by the

Company in delivering the gas, after it reaches the city limits, to the consumers. The item of "general property" includes the Company's office buildings and other properties not attributable directly to the three foregoing. The item of "general overhead charges" is the allowance for superintendence, engineering and other charges not included in the costs of labor and material going into the plant; and the item of "working capital" includes the amount of money which must be kept on hand by the Company constantly to carry on its business, as well as the value of the material and supplies which must be constantly kept on hand to meet the Company's requirements. There is in the foregoing appraisal no amount included as the value of the property as a going concern, usually termed "going concern value".

At the time the said hearing began before said Commission, certain interested parties appeared and protested, among them being the City of Huntington and the City of Charleston.

The detailed inventories made by the engineers under the direction of Ford, Bacon & Davis, were filed before said Commission, together with the value placed on each item of property, embracing several volumes. The same were also summarized in a general report, which was also filed before said Commission.

After the said evidence was introduced showing the items of said property and the valuation of each item, and the total value thereof, the said protestants requested time within which to have an engineer value the property of the plaintiff in detail, in order to overthrow the valuation placed thereon by said Ford, Bacon & Davis. This time was granted by the Commission, and the said protestants employed engineers and accountants for the purpose of valuing the Company's property and otherwise examining into its affairs. The engineer thus employed by said protestants was later introduced as a witness before said Commission, and testified that he had checked the items of property included in the inventories made

by Ford, Bacon & Davis, and that he found said inventories absolutely correct; that he had also checked the value fixed thereon by the said Ford, Bacon & Davis, and that he found all of said values absolutely correct; that he had also observed the condition of said property, and had no criticism to make of the amount deducted from each item thereof by said Ford, Bacon & Davis because of its deteriorated condition. The only criticism that was made of said valuation was that the allowances for overhead expenses were too high by an inconsiderable amount, and that depreciation or deterioration should be calculated upon the straight line basis instead of upon the actual observed condition.

The summary of the valuation of said property made by said Ford, Bacon & Davis is herewith filed as part of this bill, marked EXHIBIT "C"; and because of the fact that the engineers and experts of the protestants find nothing to criticise in the inventories and the valuation fixed on the various items of property, the said inventories, consisting of several volumes, are not filed herewith. The disagreements between the valuation made by the said Ford, Bacon & Davis and the experts employed by the protestants, will be hereinafter more fully adverted to.

FIFTH.

As before stated, in addition to the plants of the said plaintiff, its property consists of gas rights in more than 800,000 acres of land, situate as aforesaid. To show the value of these gas rights, the said plaintiff had a thorough survey made of the same by Ralph E. Davis, a Mining Engineer of years of experience in such work. He made a careful study of all of the Company's gas rights and gas properties, observing present conditions and past performances of all of the wells drilled by the Company, as well as wells drilled by others in the gas fields wherein the plaintiff's gas rights are located. He found, as a result of this study, that there were certain gas rights owned by the Company which were entirely developed

and the value of which was proven by such complete development, which he classified as "proven acreage" or "proven territory". He also found that there was a large amount of such property which was partially developed by the plaintiff and which lay in such proximity and in such relation to property developed by the plaintiff and by other gas companies that it was practically certain that the same contained natural gas. This territory, for convenience, he classified as "probable acreage". These two classifications he found covered about 260,000 acres of the territory embraced in that in which the plaintiff Company owned the gas rights. The rest of the territory in which the said plaintiff is the owner of the gas rights, consisting of 550,000 acres in round numbers, was not considered sufficiently tested to determine its value for gas purposes, although much of it, because of its location, was found to be, in all likelihood, such territory as would produce gas when properly developed.

Applying the result of his observations of the wells already drilled in the various fields in which the plaintiff's gas rights laid, said Davis concluded that the acreage of gas rights classified by him as "proven" and "probable", amounting to about 260,000 acres, contained, at the least, six hundred and sixty-three (663) billion cubic feet of gas. The method adopted by Mr. Davis in reaching this conclusion and the information which he had available for the purpose, fully appears from the report submitted by him and filed with said Commission with his testimony, which is filed herewith as part of this bill, marked EXHIBIT "D".

With this information furnished by Mr. Davis, the said firm of Ford, Bacon & Davis undertook to ascertain the value of these gas rights, and in doing so, attempted to set up such value, based upon figures which had no relation to public service control. The method used and the results obtained fully appear from the valuation report of said firm of Ford, Bacon & Davis, heretofore filed as part hereof, marked EXHIBIT "C". The result of

that report is that the said gas rights were found to have a value of $36,449,176.00.

In addition to this evidence as to the value of said gas rights, the said plaintiff also introduced before said Commission a number of witnesses, who were fully acquainted with said properties and all of the elements entering into the value thereof, and who were men of the longest and most extensive experience in the natural gas business of any in the United States, and who, from all of the information available, fixed the value of these gas rights of the said plaintiff, said values so fixed by said witnesses ranging from $30,000,000.00 to $45,000,000.00. The witnesses whose testimony bear directly upon this question are T. O. Sullivan, John B. Corrin, T. B. Gregory, John Davidson and A. G. Wamock. In addition to these witnesses, the plaintiff introduced before said Commission a number of other witnesses, who testified as to the value of natural gas at the mouth of the well in the various fields in which the said plaintiff produces gas, the purpose of such testimony being to show what the value of the gas was in the ground, it being already shown what it cost to produce the same. The witnesses testifying upon this question before said Commission were James J. Cabot, Ira G. Sayre, J. G. Ward, Ben C. Grosscup, J. A. Pierce, J. C. Blair and H. A. Wallace.

The evidence introduced by the plaintiff to show the valuation of the gas rights owned by it was not controverted by any testimony indicating that said gas rights were worth any less than the values fixed thereon by said witnesses, the least of such valuations being the sum of $30,000,000.00; and, in order that the court may have before it all of the testimony upon this question, as well as the other questions considered by the Commission, plaintiff herewith files as part of this bill a complete transcript of the testimony taken before said Commission marked EXHIBIT "TRANSCRIPT", together with the exhibits used by said witnesses, insofar as the same throw any light upon the questions here involved.

SIXTH.

Upon the consideration of all of said evidence, the said Public Service Commission of West Virginia reached a conclusion and found that the plaintiff was already receiving an adequate compensation for the service being rendered by it to its public service consumers in West Virginia, and denied it the right to increase said rates or to put into effect the schedule proposed by it. The principal opinion upon the said questions was written by the defendant Commissioner Birk S. Stathers, a concurring opinion was written by Commissioner James J. Divine, and Commissioner Ernest D. Lewis dissented from the conclusion reached by the other two defendant commissioners. A copy of said several opinions of said Commission, together with a copy of the order entered by said Commission, is herewith filed as part of this bill, marked EXHIBIT "P. S. C. OPINIONS".

SEVENTH.

A consideration of the testimony of the expert engineer introduced by the protestants, Mr. Hagenah, will show that the only criticism he has to make of the valuation of the Company's property made by said Ford, Bacon & Davis, is in the item of certain overhead charges and the amount allowed for deterioration. He contends in his evidence that the item of "cost of financing" and the item of "interest on money during construction", are not correct. However, the Commission, in its opinion, reviewed the evidence introduced on these two questions, and found that Mr. Uebelacker's figures upon these questions are correct.

Mr. Hagenah also contends, in his testimony, that the plant should be depreciated on the straight line basis, instead of in accordance with the actual wear and tear indicated. This contention the Commission also overruled, and found, under authority of a decision of the Supreme

Court of the United States, that the actual present value of the property is the thing to be considered.

The Commission, however, finds, in accordance with the testimony of Mr. Hagenah, that the going concern value of the Company is $3,000,000.00 instead of the amount contended for by Mr. Uebelacker, of the firm of Ford, Bacon & Davis, and it also finds that $990,000.00, testified to by both of the experts, is a proper amount for working capital, including the value of supplies required to be kept on hand. This would make a total present fair value of the physical property, including going concern value and working capital, of $32,621,320.00. The Commission, however, found that there was included in this amount an item of $254,332.00, the expense of "dry holes", which it was of the opinion should not be allowed, notwithstanding it was allowed by the engineers for both parties, and deducting which item leaves a valuation of $32,366,888.00, as the present fair value of the property as found by the Commission, excluding the value of gas rights belonging to the plaintiff. Because of the fact, however, that this property did not cost that much, the Commission found its present fair value to be the sum of $25,000,000.00 as of the 31st day of December, 1923. It is not apparent from the opinion of Commissioner Stathers how he arrives at this $25,000,000.00. It is not the present fair value of the property according to any standard set up by any witness in the case or by any testimony of any kind introduced in the case. It is significant, however, that the amount found by the Commission is even a little less than the amount found by protestants' expert after correcting this amount by the addition of the overhead charges, so that the effect of the Commission's decision is to allow even more depreciation or deterioration than is claimed by Mr. Hagenah.

In addition to the $25,000,000.00, the Commission allowed the sum of $666,639.45 which had been added to the plant since the 31st day of December, 1923, upon the testimony of the witness W. J. Hightower. The testimony

of this witness upon this question shows that there had been expended for additions to the plant the sum of $2,000,676.57, in addition to the value of parts which had been retired; that some of the work had not been entirely completed, and for that reason the Commission only allowed the sum of $666,639.45 and declined to allow the sum of $1,334,037.10 actually expended upon the plant for work not complete at the time. If this $2,000,676.57 be allowed as a proper item upon which plaintiff is entitled to a return, then the fair present value of its physical properties was $24,621,996.57, instead of $25,666,639.47, as found by the Commission, or practically $9,000,000.00 in excess of said amount.

And the said plaintiff here and now avers that the decision and action of the said Public Service Commission in fixing the present fair value of the Company's plants at $25,666,639.47, determines such value to be $9,000,000.00 less than the actual present fair value of said properties, and that the judgment and action of said Commission in refusing to allow this plaintiff the actual present fair value of its property as a basis for the rate to be paid by its consumers, is a taking of its property without just compensation and in violation of the Fourteenth Amendment to the Constitution of the United States.

EIGHTH

Plaintiff says that as to the gas rights and gas properties owned by the said plaintiff, said Commission refused to consider any of the evidence introduced by the plaintiff to prove the value of such rights, and allowed as a value thereof, for the purpose of rate-making, only the sum of $6,361,511.42, the amount that was actually paid therefor by the Company, or its predecessors, many, many, years ago. In addition to this amount that was actually paid for the acquisition of said rights, consisting of leases and leaseholds, the said Company has paid out the sum of $8,817,909.96 as rentals or installments upon said leases, by which the same have been kept in effect, making an

actual expenditure of over $15,000,000.00 for producing said leases and gas rights in their present condition; but said Public Service Commission declined to allow any part of the said $8,817,909.96 as a value of said leaseholds, even on the basis of the actual cost thereof, because the plaintiff paid these amounts out of earnings of the Company instead of declaring said earnings as dividends, it being the apparent holding of the Commission that if the plaintiff reinvested any of its earnings, it could receive no return thereon.

Plaintiff avers that if the cost of procuring these gas rights many years ago, in advance of development and proof of the productive character of the territory, is to be taken as the measure of their present fair value, then the rate of return to be allowed thereon should be that rate which would be ordinarily expected from an investment of such a speculative character. Plaintiff avers that at the time said leases were acquired for said sum the territory embraced therein was not developed and proven for gas, and it was not known that such territory was underlaid with valuable pools of gas to the extent that subsequent development has shown, and that when it invested said large sum of money in the acquisition of said leases, it took the risk of losing the whole thereof, or a large part thereof, if it should turn out, upon tests being made, that its judgment as to the said territory was in error; that the rate of return ordinarily received from a successful investment of this speculative and uncertain character is very much in excess of the 8% return allowed by the Commission. And this plaintiff says that if it is to be limited, in fixing the value of said gas rights, to the amount paid therefor at the time the same were untested and unproven, then the rate of return allowed by the Commission is entirely inadequate and not that rate of return which is ordinarily received by those making investments in such uncertain properties.

Paintiff avers that ordinarily, one investing money in undeveloped and untested oil and gas territory is en-

titled to receive, should his judgment turn out to be good, a rate of return of from 25% to 100% on the investment. Plaintiff avers that the amounts paid by it in the way of annual or quarterly installments upon said gas rights are as much a part of the purchase price thereof as the moneys paid by it originally therefor, and that there can be no justification for not allowing said payments to be treated as a part of the purchase price therefor, if that is to be taken as the basis of the present fair value.

Plaintiff avers, however, that the evidence introduced by it as to the present fair value of these gas rights is entirely competent and proper evidence, and cannot be disregarded; that the same is not in any way disputed or controverted; and that, on the basis of this evidence, the present fair value of such gas rights is at least the sum of $30,000,000.00.

And so the plaintiff avers that the action of said Commission in fixing the value of said gas rights at only $6,361,511.42 and denying the plaintiff the right to charge a rate to its consumers which would produce a return on any larger sum than that, is depriving the plaintiff of its property, to the extent of at least $25,000,000.00, without compensation, and is in violation of the Fourteenth Amendment to the Constitution of the United States.

NINTH.

Plaintiff further avers that the action of said Public Service Commission in fixing the value of its entire property at $35,000,000.00 and denying it the right to charge a rate which would yield no more than a fair return upon said sum of $35,000,000.00, is taking the plaintiff's property for public use without compensation, to the extent of more than $30,000,000.00, and is in violation of the Fourteenth Amendment to the Constitution of the United States.

TENTH.

Plaintiff avers that, as will appear from the opinion of Commissioner Stathers, the said Commission fixed the fair value of plaintiff's property upon which it was entitled to a return, in the aggregate, at $35,999,969.14, and adjudged that it was entitled to a return of 8% upon this amount; that it was also entitled to a return of 1½% for the purpose of depreciation,— that is, to provide a fund with which to make extraordinary repairs; and that it was entitled to a return upon this property sufficient to amortize the plant within the probable life of the property. But said Commission found, as will appear from said opinion, that the plaintiff was only entitled to have its said plant amortized to the extent of $20,000,000.00 instead of the full amount thereof. It found that while the present fair value of the property was $35,000,000.00, the Company had set up an amortization or depreciation reserve which now amounted to nearly $15,000,000.00, and that it must, therefore, deduct this from the present value of the property in order to determine the amount which remained to be amortized. This holding entirely loses sight of the fact that the property has already been amortized to the extent that this amortization reserve exists. It is shown that the valuation claimed by the plaintiff for its property is practically $9,000,000.00 less than the property would cost new, and it appears from the testimony in the case that there has already been extracted from the fields a large amount of gas sufficient to fully make up the balance of this amortization fund, and it was for the purpose of taking care of this wear and tear upon the physical plant, which has already occurred, and the depletion of the gas fields, which has already been done, that the said amortization reserve was created. To deduct this $14,000,000.00 amortization fund from the present fair value of the plaintiff's property is to take it off twice, and presents the anomalous position of giving the plaintiff a rate of return upon the present fair value of its property

as found by the Commission, but permitting the public to take that property and use it in the public business and consume it therein by paying only $20,000,000.00 therefor.

The plaintiff therefore avers that the action of said Commission in finding that it was only entitled to have its plant amortized to the extent of $20,000,000.00 instead of to the full extent of the present fair value thereof, was depriving it of its property without compensation, and an appropriation thereof to the public use without compensation, in violation of the Fourteenth Amendment to the Constitution of the United States; and that there must be provided a rate to be charged by the plaintiff to its customers which will yield it a sufficient sum not only to pay the return upon the investment, but to amortize the full value of the property within the probable life thereof.

The Commission has calculated that to amortize $20,000,000.00 worth of property would require a rate of return of 4.15% upon the present fair value of $35,000,000.00, as found by it, within the probable life of the property. It would therefore take practically 8% to amortize the full present fair value of the property within that time, and, as appears from the said opinion of Commissioner Stathers, this is the rate that has heretofore been allowed to the plaintiff Company, and to all other gas companies, for the purpose of amortization.

ELEVENTH

Plaintiff says that in determining whether or not it was entitled to increase its rates, the said Commission attempted to ascertain its total net income—that is, the income from all sources; that having ascertained this, it found that its total income was producing a sufficient return upon the present fair value of the plaintiff's property, as found by it. Plaintiff says that this method does not reach a just conclusion, for the reason that a large part of its gas is sold at a very much higher rate than that sold to the public service consumers in West Virginia. A large part of its gas is sold at wholesale, under

private contract, at a much higher rate than is received by it for the gas delivered to its public service consumers in the State of West Virginia, and the effect of the method adopted by the Public Service Commission in ascertaining whether or not a fair rate is being received, is to appropriate to the use of the pubic service consumers in West Virginia the profits made by the plaintiff upon the gas sold to its private consumers and to its public service consumers in other States. The plaintiff says that this return or profit made by it upon the gas sold to its wholesale consumers and others not regulated by the Public Service Commission of West Virginia, is its private property, and that the action of the Public Service Commission in taking these profits and appropriating them to the use of the public service consumers of the plaintiff in the State of West Virginia, is appropriating its property to the public use without just compensation, and is in violation of the Fourteenth Amendment to the Constitution of the United States.

Palintiff says that the question to be determined was not whether the plaintiff was making sufficient money from other sources to permit it to deliver gas to its public service consumers in West Virginia at the present rates, but do the present rates charged its consumers in West Virginia yield a fair return on the property devoted to that service. The proper method, of course, for determining this question would be to fix the expenses of the Company in operating its business and the amount it was entitled to receive to make a fair return upon this total investment. The total of the this amount would then be the amount which the Company should receive each year. It is recognized by the experts on both sides that the cost of delivering gas to the pubic service consumers in West Virginia is 7 cents more than the cost of delivering gas to a wholesale consumer at the point where the lines enter the distribution system; that is to say, the plaintiff's public service consumers in West Virginia should first be charged 7 cents per thousand cubic feet

on all of the gas distributed to them, and this amount taken from the total of expenses and return. The amount thus remaining would then be divided by the total gas sales of the Company, and the amount thus arrived at, added to the 7 cents, cost of distribution, would be the fair average rate which should be paid by West Virginia public service consumers. To illustrate what we mean, we will take the figures for expenses and return found by the Commission, but by using these figures we do not mean to adopt them, as will hereinafter appear. The Commission finds that the Company is entitled to receive as return $4,779,534.53 per year; that it has operating expenses of $3,734,802.82 per year, or a total of $8,514,337.35, from all sources, upon the assumption that all of the product of the plaintiff was delivered to its West Virginia consumers. The record shows that there was delivered to the West Virginia consumers 10,593,248 M. cu. ft. of gas during the year 1923, which, at 7 cents per thousand cu. ft., the cost of distribution, would amount to $741,527.35. Deducting this from the total amount which the Company is entitled to receive, according to the Public Service Commission's decision, we have $7,772,810.00, which must accrue from the production and transportation of the gas to a point equal to the city gate rate. The Company sold, as appears from the record, in the year 1923, for all purposes, 47,040,235 M cu. ft., and in order to get the $7,772,810.00 for producing and transporting this product to the city gate, it would be necessary for it to receive a rate for each thousand cubic feet of gas of 16½ cents, which, added to the 7 cents, cost of distribution, would require an average rate for the public service consumers in West Virginia of 23½ cents in order to produce even the grossly inadequate return provided by the Public Service Commission on the grossly depreciated value of the plaintiff's property, when the average rate in the City of Charleston is only 19 cents.

And so this plaintiff avers that the holding of the Public Service Commission that the rates now charged for

gas by this plaintiff to its public service consumers in West Virginia are adequate to provide a fair return, is an erroneous holding and deprives this plaintiff of its property, without just compensation, in violation of the Fourteenth Amendment to the Constitution of the United States.

Plaintiff says that in order to reach the conclusion that the plaintiff's net income is $7,260,962.38 for the year 1923, the Commission added to the actual income of the plaintiff the sum of $2,143,661.46, being the difference between what plaintiff charged the parent companies for the gas furnished to them and what the Commission thinks should have been charged; and by adding the further sum of $934,393.41 for one-half of the profits from the manufacture of gasoline. But it is significant that, in making this adjustment of earnings, the Commission does not reduce the same by the amount that the plaintiff received from other wholesale consumers and other consumers outside of the State of West Virginia in excess of the average West Virginia public service rate. Another matter which said Commission did not consider in adjusting this net income, and that is that if this supposititious state of income created by it was actually set up, the Federal income taxes upon the plaintiff's income would be increased to the extent of 12½% of the amount added to the actual income received, while the Commission, in its figures, makes no allowance whatever for such an amount. There are other adjustments and allowances which the Commission makes, as shown by the opinion, which have no support in the evidence.

The plaintiff goes thus into detail of the Commission's figures for the purpose of showing that even upon a fair application of the actual facts to the figures found by the Commission, the return which the Commission has found to be a fair one cannot be justified. And so this plaintiff avers that the holding of the Commission that it is now receiving from the public service consumers in West Virginia a fair return upon the value of its property devoted

to the public service in West Virginia, is depriving it of its property without compensation, and is in violation of the Fourteenth Amendment to the Constitution of the United States.

TWELFTH.

The Public Service Commission, in arriving at its conclusions, found that the plaintiff was entitled to receive from the Virginian Gasoline & Oil Company, one-half of the net profits arising from the manufacture of gasoline by that Company. Sometime since, the plaintiff sold to the Virginian Gasoline & Oil Company its gasoline extraction plants, together with all of its oil holdings, for a very substantial consideration and one which it is not questioned was entirely adequate. It also granted to that Company, the right to extract the gasoline from the natural gas produced by the plaintiff, for a royalty of one-eighth of the gross amount received by the said Virginian Gasoline & Oil Company therefor. Plaintiff asserts that the said contract was entirely fair and provides an adequate compensation to it for the privilege of extracting such gasoline; that no showing was made that in any way impeached the fairness of this contract, but that notwithstanding this, the Commission substituted for the consideration provided to be paid in the contract of one-eighth of the gross receipts from gasoline, a one-half of the net receipts therefor, which, for the year in question because of an extraordinary rise in the price of gasoline, happened to be very much more than the amount provided in the contract. Plaintiff avers that the provisions of the contract provide a much more equitable and stable compensation for this privilege than that set up by the Commission; that there is absolutely no basis for the findings of the Commission, while the provisions of the contract find a close analogy in the ordinary rentals and royalties paid for the production of petroleum products, it being the almost universal custom to pay one-eighth of the product for the right to produce the same.

And so this plaintiff says that the action of said Commission in increasing its revenues by the addition thereto of one-half of the profits from the manufacture of gasoline, has the effect of relieving the public service consumers from the payment of a fair return to it for the gas furnished to them, to the extent that such one-half of the net profits from said gasoline increases its net earnings, and that it is thereby deprived of the right to earn a fair return upon its property and is deprived of its property without just compensation, in violation of the Fourteenth Amendment to the Constitution of the United States.

THIRTEENTH.

The business of the plaintiff has been conducted efficiently and economically during all the time herein referred to, and is now being so conducted.

FOURTEENTH.

That under the provisions of the said Act of the Legislature of West Virginia creating said Public Service Commission, above referred to, it is provided that any public service corporation, or any officer or agent thereof participating therein, who shall violate any provision of the Act or any order of the Commission, shall be subject to heavy fines or be imprisoned in jail for each offense, or both, at the discretion of the court, and that the plaintiff cannot put into effect any rate which would afford to it reasonable compensation for the service rendered by it without being made subject to prosecution therefor and to the said fines and penalties.

That the defendants Howard B. Lee, Attorney General of the State of West Virginia, and Fred M. Livezey, Counsel for said Public Service Commission, are charged with the duty of enforcing said provisions of said Act and the orders of said Public Service Commission, and would proceed to enforce against this plaintiff and its officers and agents the fines and penalties provided by said Act,

should it undertake to charge any rate in excess of that now being charged by it.

FIFTEENTH.

That plaintiff is prevented and intimidated from putting into effect any schedule of rates for natural gas supplied to its patrons which would yield to it an adequate return for the service rendered, because of said highly excessive and unusually severe penalties provided in the above mentioned statute, and that because of the restraint and intimidation of said unusual penalties, this plaintiff is forced to keep in effect the requirements and schedules heretofore prescribed by said Public Service Commission, and the imposition, or threatened imposition of said penalties forces upon the plaintiff an abandonment of its rights to act independently of said void and illegal requirements of said Public Service Commission. That by reason and virtue of all the facts hereinbefore recited and the acts of the said Public Service Commission hereinbefore mentioned, and the penalty statute of the State of West Virginia provided in connection with charges and charges not made with the consent and approval of said Public Service Commission, this plaintiff is deprived of its property without due process of law and is compelled to produce, transport and deliver gas to its consumers for less than the actual cost thereof to it after allowing a sum sufficient to pay for the gas used and for the amortization of its plant.

WHEREFORE, this plaintiff being without adequate remedy in the premises, save in a court of equity, prays:

1. That a writ of subpoena may issue against each of the above named defendants, and that they may be required to answer this bill, but not under oath, answer under oath being expressly waived.

2. That the order of the defendant The Public Service Commission of West Virginia, entered on the 24th day

of March, 1925, permanently suspending the rate proposed to be put into effect by the plaintiff and forbidding the plaintiff to put said rate into effect, be adjudged, by decree herein, to be unconstitutional and void and to deprive this plaintiff of its property without just compensation therefor, in violation of the Fourteenth Amendment to the Constitution of the United States.

3. That insofar as the said order of the Public Service Commission requires this plaintiff to continue in force the rates now existing for natural gas to its public service consumers in the State of West Virginia, and finds that the rate now being charged is just and reasonable, it be adjudged to be unconstitutional and void and as depriving this plaintiff of its property without just compensation.

4. That the said defendants, and each of them, be enjoined, inhibited and restrained from interfering with the said plaintiff in putting into effect the schedule of rates fixed by it as aforesaid, and be enjoined, inhibited and restrained from enforcing against the said plaintiff any of the fines and penalties prescribed by the provisions of the laws of the State of West Virginia for violation of said order of said Public Service Commission.

5. That this court may make an inquiry and finding as to what would be a just and reasonable rate to be charged by this plaintiff to its consumers in the State of West Virginia, and that, upon such finding being made, an order may be entered enjoining, inhibiting and restraining the said defendants, and each of them, from interfering with this plaintiff in putting into effect a schedule of rates in conformity with such finding.

6. To the end that immediate and irreparable loss, damage and injury may not result to the plaintiff pending the hearing of its motion and prayer for an interlocutory injunction, that a temporary restraining order may be made and entered by this court, inhibiting the

defendants, and each of them, their agents and employees, from enforcing or attempting to enforce said order of said Public Service Commission against the plaintiff or its agents or employees, or from in any manner interfering with the plaintiff in putting into effect the schedule of rates so proposed by it as shown by said EXHIBIT "B", or from instituting any suit or proceeding to compel said plaintiff to comply with said order of said Commission.

And plaintiff prays for such other and further relief as may be equitable and just or suited to its case.

UNITED FUEL GAS COMPANY,

By H. A. WALLACE,
Vice President and General Manager.

HAROLD A. RITZ,
Solicitor for Plaintiff.

State of West Virginia,
County of Kanawha, SS:

H. A. Wallace, first having been duly sworn, deposes and says that he is Vice President and General Manager of the United Fuel Gas Company, the plaintiff herein, and is acquainted with the facts set forth in the foregoing bill of complaint; that the same was subscribed by him for and on behalf of said plaintiff, and that he is duly authorized thereto; that he has read the said bill of complaint by him subscribed and knows the contents thereof; and that the same is true, except as to matters therein alleged upon information and belief, and as to those, he believes it to be true.

H. A. WALLACE.

Taken, sworn to and subscribed before me, the undersigned, Notary Public.

Given under my hand and notarial seal this 1st day of April, 1925.

My commission expires Nov. 30, 1930.

JNO. C. MCELDOWNEY,
Notary Public.

(Notarial)
(Seal)

EXHIBIT "A"

NOTE: This is a mere compilation of existing schedules and supplements heretofore filed with the addition of rates for certain localities not formerly supplied.

P. S. C. W. VA. No. 3

Supersedes All Preceding Schedules

UNITED FUEL GAS COMPANY
(INCORPORATED)

NATURAL GAS

PRINCIPAL OFFICE:
CHARLESTON, WEST VIRGINIA

ISSUED DECEMBER 19, 1919. EFFECTIVE DECEMBER 20, 1919

APPLICABLE TO GAS SUPPLIED AFTER THE METER READINGS FOR THE MONTH OF DECEMBER, 1919

UNITED FUEL GAS COMPANY

Schedule of Rates for Natural Gas—Effective December 20, 1919.

WEST VIRGINIA

The following schedule shows all the rates charged or collected for gas supplied for any purpose, (except when sold to other gas companies) whether regularly or temporarily, and whether as a public service or otherwise, but

this company has not undertaken or professed to supply natural gas to the public generally, or without special contract governing the same, except for use in and about dwelling houses, offices, stores, laundries, schools, churches, club houses, hospitals, hotels, and other public buildings of a similar character, and which uses of natural gas are commonly known and will be hereinafter referred to as "domestic purposes." Service to the class of consumers, which this company undertakes to supply generally in the localities hereinafter listed, includes the supplying of natural gas for cooking, and for heating and lighting dwelling houses, regardless of the appliances used by the consumer. It also includes the supplying of gas for use in offices, club houses, laundries, schools, churches, hospitals, stores, hotels, and other public buildings, but, at the option of such consumers, that part of the gas used by them for heating their boilers will be supplied, through a separate meter, at the lower rate hereinafter mentioned as the manufacturing rate, upon condition that the consumer enter into a special contract such as that hereinafter mentioned, as required of consumers for manufacturing purposes, agreeing to accept a service for such boilers subordinate to that furnished to dwelling houses, by substituting coal or other fuel for heating the same when the company may require its entire supply for the use of its domestic consumers, who are charged the regular domestic rate.

Service for domestic purposes is furnished, subject to the uniform rules and regulations hereinafter set forth, for premises adjacent to streets or highways on which low pressure lines are laid, at the localities hereinafter mentioned, to all persons making the formal written application therefor, prescribed by the company, and agreeing to be bound by said rules and regulations as part of the contract relation created between the applicant and the company upon the acceptance by the latter of such application.

In addition to the foregoing this company, as incidental

to its public service, supplies natural gas to persons, firms and corporations under contracts, limited as to time and amount, for manufacturing purposes and for mining operations at the localities hereinafter mentioned, at what is termed, in this schedule, the rate for "Manufacturing Service," but only upon express condition that the service for such purposes is subordinate to the service given to domestic consumers, and may be discontinued at such time or times as may be necessary, in the judgment of the gas company, for the adequate supply of domestic consumers; but this company does not profess to supply all applicants for gas for such purposes, nor to be a public servant as to such service.

Gas furnished for use in gas engines is charged for at the rate for manufacturing service, provided such gas engines constitute part of the operating equipment of a factory in which gas is, at the same time, supplied for boilers, or furnaces (in which fuel other than gas can be readily substituted), and provided further, that the said gas engines are not used or operated when the supply of gas is discontinued at other parts of the factory for the benefit of domestic consumers. If gas is furnished for use in gas engines under different circumstances than those above mentioned, it is charged for at the domestic rate.

AMMA.

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

BAKER'S FORK, CHARLESTON DISTRICT, KANAWHA COUNTY.

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 3c per 1,000 cubic feet.

Minimum monthly charge, 50c.

BANNISTER:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

BARBOURSVILLE:

DOMESTIC SERVICE:

22c per 1,000 cubic feet; discount 1c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 22c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 19c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 18c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

BIG CREEK:

DOMESTIC SERVICE:

27½c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

BIG SANDY:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

BLUE CREEK:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

BURDETTE, CURRY DISTRICT, PUTNAM COUNTY:
TY:

DOMESTIC SERVICE:

27½c per 1,000 cubic feet; discount 21½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CEDAR GROVE:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CEDARVILLE:

DOMESTIC SERVICE:

33c per 1,000 cubic feet; discount 3c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CERRO:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CHARLESTON:

DOMESTIC SERVICE:

22c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 21c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 20c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 16c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

Manufacturing Service rate applies to State Buildings and Public Schools.

CHELYAN:

DOMESTIC SERVICE:

22c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CHERRY TREE BOTTOM:

DOMESTIC SERVICE:

27½c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CLENDENIN:

DOMESTIC SERVICE:

17c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CHURCHES:

12½ per 1,000 cubic feet. Rate provided for in franchise.

STREET LIGHTS:

25c per month for each one mantle lamp.

25c per month for each additional mantle.

MANUFACTURING SERVICE:

First 100,000 cubic feet each calendar month 16c per 1,000 cubic feet.

Second 100,000 cubic feet each calendar month 14c per 1,000 cubic feet.

All over 200,000 cubic feet each calendar month 12c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

COALBURG:

DOMESTIC SERVICE:

22c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 21c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 20c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 16c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

CULLODEN:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

EAST BANK:

DOMESTIC SERVICE:

22c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

EAST LYNN:

DOMESTIC SERVICE:

27½c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

ELK VIEW:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

FORT GAY:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

GAY:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

HUNT:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

HUNTINGTON:

DOMESTIC SERVICE:

22c per 1,000 cubic feet; discount 1c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 22c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 19c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 18c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

HURRICANE:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

STREET LAMPS:

25c per lamp, per month. Rate provided for in franchise.

JORDAN CREEK:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

KANAWHA CITY:

DOMESTIC SERVICE:

28c per 1,000 cubic feet; discount 3c per 1,000 cubic feet.

Minimum monthly charge, 50c.

KENOVA:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 22c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 19c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 18c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

KERMIT:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

KING:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

KYGER:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

LOCK SEVEN:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

LOGAN:

DOMESTIC SERVICE:

27½c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 26c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 19c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 13c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

McCLANAHAN:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MILLIKEN:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

NEWTON:

DOMESTIC SERVICE.

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

ONA:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

POCA:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

QUICK:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RAVENSWOOD:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 23½c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 17c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 13c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

REEDY:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

STREET LIGHTS:

50c per light per month.

RICH CREEK:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RIPLEY:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

STREET LIGHTS:

50c per light, per month.

SANDYVILLE:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

SILVERTON:

DOMESTIS SERVICE:

25c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

SISSONVILLE:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

SPENCER:

DOMESTIC SERVICE:

22c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 17c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 15c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 13c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

STREET LIGHTS:

City of Spencer, $2.50 per light, per year.

Private consumer, 50c per light, per month.

STOFFLE:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

THREE MILE:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

WALGROVE:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

WALTON:

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

WILLIAMSON:

DOMESTIC SERVICE:

27½c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 26c per 1,000 cubic feet.

Second 150,000 cubic feet each calendar month 19c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 13c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

WILSON HOLLOW, CHARLESTON DISTRICT, KANAWHA COUNTY:

DOMESTIC SERVICE:

28c per 1,000 cubic feet; discount 3c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RURAL DISTRICTS—Convenient to present lines in localities not listed above and not connected with any low pressure distributing plant.

CABELL COUNTY.
- Barboursville District.
- Grant District.
- Guyandotte District.

LINCOLN COUNTY.
- Carroll District.
- Duval District.

ROANE COUNTY.
- Curtis District.
- Geary District.
- Harper District.
- Reedy District.
- Smithfield District.
- Spencer District.
- Walton District.

KANAWHA COUNTY.
- Big Sandy District.
- Cabin Creek District.
- Charleston District.
- Elk District.
- Jefferson District.
- Malden District.
- Poca District.
- Union District.

PUTNAM COUNTY.
- Curry District.
- Scott District.
- Teays Valley District.

WAYNE COUNTY.
- Ceredo District.

JACKSON COUNTY.
- Ravenswood District.
- Ripley District.
- Washington District.

DOMESTIC SERVICE:

25c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

BOONE COUNTY.
Washington District.

MINGO COUNTY.
Harlow District.
Harvey District.
Lee District.
Warfield District.

LOGAN COUNTY.
Chapmanville District.

WAYNE COUNTY.
Butler District.
Lincoln District.
Stonewall District.
Union District.

DOMESTIC SERVICE:

27½c per 1,000 cubic feet; discount 2½c per 1,000 cubic feet.

Minimum monthly charge, 50c.

GILMER COUNTY.
Center District.

CALHOUN COUNTY.
Washington District.

DOMESTIC SERVICE:

35c per 1,000 cubic feet; discount 3c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RATES FOR DRILLING WELLS, PIPING OIL AND GAS, PUMPING OIL, ETC., SERVICE LINES FURNISHED BY THE CONSUMER.

RATES IN THE FOLLOWING SCHEDULE, WHEN BASED ON TOUR OF TWELVE HOURS OR LESS, ARE TO BE INCREASED WHEN GAS IS USED FOR MORE THAN TWELVE HOURS.

Pumping well with steam engine, each well per month, or fraction thereof $15.00

Pumping well with separate gas engines, each well per month, or fraction thereof 7.50

Pumping wells connected by shackle rods with gas engine:

First well per month, or fraction thereof 7.50

Each additional well on same power per month, or fraction thereof 2.00

Cleaning out well with steam engine, per hour 12 hours or less 1.00

Cleaning out well with gas engine, per tour 12 hours or less 1.50

Tubing well with steam engine, per tour 12 hours or less 3.50

Tubing well with gas engine, per tour 12 hours or less 2.00

Pulling rods with steam engine, per tour 12 hours or less 3.50

Pulling rods with gas engine, per tour 12 hours or less 2.00

NOTE.—No charge for tubing well or pulling rods when charge for pumping is made against the well at the monthly rate of $15.50 for pumping with steam engine, or $7.50 monthly for pumping with gas engine.

Pulling casing with steam engine, per tour 12 hours or less 3.50

Pulling casing with gas engine, per tour 12 hours or less 2.00

Steaming oil per tank, 100 bbls or less 1.00

Steaming oil, per tank of more than 100 bbls and not more than 250 bbls 1.75

Steaming oil, tankage in excess of 250 bbls at 6¾ per 100 bbls 6¾ 2.3

Pumping oil with steam per tank, 100 bbls or less 1.50

Pumping oil with steam per tank of more than 100 bbls and not more than 250 bbls 2.25

Pumping oil with steam, tankage in excess of 250 bbls at 9m per 100 bbls 9m

Pumping water with steam per tank, 100 bbls or less 1.50

Pumping water with steam per tank of more than 100 bbls and not more than 250 bbls 2.25

Pumping water with steam, tankage in excess of 250 bbls at 9m per 100 bbls 9m

Jetting water with steam pressure, per tour 12 hours or less 2.25

DRILLING WELLS.

Drilling wells, including forge and three lawn lights, (Irwin lawn light or similar burner) per tour 12 hours or less	4.75
Drilling wells, including forge, (when electric lighting system is used) per tour 12 hours or less	4.25
Extra forge per day	.50
Extra lawn lights per month, each. (Irwin or similar burner)	15.00
Extra lawn lights per night, each. (Irwin or similar burner)	.50
Heating stoves with mixer, per month	7.50
Heating stoves with mixer, per day	.50
Boilers for drilling machine for water wells, per tour 12 hours or less	3.00
Pumping water for drilling wells for the total number days drilling, per day	1.00

WATER STATIONS.

Pumping water with steam, small Donkey pump not over 5½ inch cylinder, per tour 12 hours or less	2.00
Pumping water with steam, large Donkey pump not over 7 inch cylinder, per tour 12 hours or less	3.50
Pumping water with gas engine, 15 days to one month, per horse power	1.20
Pumping water with gas engine, less than 15 days, per horse power	.60

OIL PIPE LINE PUMPING STATIONS.

25c per 1,000 cubic feet; subject to a discount of 2c per 1,000 cubic feet for payment on or before the tenth day of the month following that in which the gas is consumed.

THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA.

Supplement No. 1.
To P. S. C. W. Va. No. 3

NITRO, West Virginia:

DOMESTIC SERVICE:

35c per 1,000 cubic feet; discount 3c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

35c per 1,000 cubic feet; discount 1c per 1,000 cubic feet.

Nitro Brick & Tile Co.

From April 1, 1921, to November 1, 1921,

25c per 1,000 cubic feet; no discount.

Issued: Effective:

UNITED FUEL GAS COMPANY,
By L. A. Seyffert,
Secretary & Treasurer.

THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA.

Supplement No. 2
To P. S. C. W. Va. No. 3

UNITED FUEL GAS COMPANY

In conformity to the decision and order of The Public Service Commission on the 28th day of April, 1922, upon the application of the undersigned in Case No. 1251, the following changes are hereby made in the schedule now filed as P. S. C. W. Va. No. 1:

1st. In all localities the rate shown on the existing schedule for public institutions, public buildings, churches, schools, hotels, etc., is hereby discontinued, and the domestic rate in force in the respective localities is substituted therefor.

2nd. In all localities where the existing schedule shows a rate for industrial or manufacturing purposes lower than the domestic rate at the same place, such industrial rate, for the lowest rate block, is hereby increased three (3) cents per thousand cubic feet above the existing rate; and in all cases where such increase in the lowest rate block renders the rate in that block equal to or greater than the existing rate in the preceding block, the last mentioned block or step is eliminated from the schedule and rate.

Issued May 1, 1922. Effective May 1, 1922.

UNITED FUEL GAS COMPANY,
By R. G. Atizer,
Vice-President.

UNIFORM RULES AND REGULATIONS GOVERNING DOMESTIC CONSUMERS

Adopted by Representatives of the West Virginia Natural Gas Association and the Chief Engineer of the Public Service Commission, October 13, 1915.

Approved by the Public Service Commission, October 14, 1915.

1. The Gas Company will furnish and install the following appliances and piping which remain its property, viz: The pipe between its gas main and the consumer's property line; a street connection stop cock and curb box, and a meter. The street connection stop cock will be installed at a convenient place between the property line and the curb, and that portion of the piping from main to street connection stop cock shall be known as the Gas Company's street connection.

2. The consumer hereby undertakes to furnish and lay the necessary pipe to make the connection from the consumer's property line to the place of consumption and to keep the service line from the street connection stop cock to the place of consumption in good repair, but the Gas Company shall pay the expense of any repairs to that portion of the service line between the street connection stop cock and the property line, but the consumer otherwise shall not make change in or interfere with said service line without the written consent of the Gas Company. The character and arrangement of the service line shall be subject to the approval of the Gas Company but the Gas Company shall not be responsible for or have any duty or obligation with respect to the same. In the installation of a service line the consumer must not install any tees or branch connections and must leave the trench

open and pipe uncovered until it is exhibited to the Gas Company's inspector free from such irregularities.

3. The consumer shall use all due care to prevent waste of gas. The responsibility of detection of defects and leaks on the consumer's premises and in the service line is upon the consumer and in case of failure or deficiency of gas, irregular supply, leakage, excessive pressure and other developments incident to handling gas under pressure, the consumer agrees to give immediate notice thereof to the Gas Company, and his failure to do so, should loss follow, shall be negligence.

4. The authorized agent of the Gas Company shall at all reasonable times have free access to the premises of the consumer with the right to shut off the gas and remove its property from the premises for any of the following reasons:

First: For repairs.

Second: For non-payment of any bill due under this or any previous contract.

Third: For fraudulent tampering with the meter or piping on the premises.

Fourth: Removal of the consumer from the premises.

Fifth: For selling or delivering gas to other occupants of the premises without the written permission of the gas company.

Sixth: For failure to make or increase an advance payment or deposit on the lawful demand of the Gas Company.

Seventh: Upon permanent exhaustion of the supply.

Eighth: For leakage or waste of gas from consumer's piping.

Ninth: For failure to comply with these rules and regulations or for the violation of any of them.

5. The Gas Company may, as provided by law, require a deposit or guarantee or advance payment, or such an increase in such deposit or guarantee or advance payment for gas to be supplied, and may apply such deposits to

bills previously incurred by the consumer under this or previous contracts with the Gas Company.

6. The Gas Company does not guarantee or undertake to furnish a sufficient supply of gas at all times and shall not be liable for failure to do so, beyond its available supply; nor shall it be liable for any injury to person or property from any cause arising inside the street connection stop cock not the result of the negligence of the Gas Company; nor shall it be liable for any injury to person or property arising from the use of gas, by, or the supply of gas to, the consumer which is not the result of negligence on the part of the gas company.

7. This contract is not transferable.

Consumers must make application in person at the office of the Gas Company at the time they commence the use of gas, or they will be held responsible for the back charges against the premises.

8. Whenever gas shall be turned off or meter disconnected by reason of non-compliance with the gas company's rules, an extra charge of one dollar ($1.00) must be paid at the Gas Office before the gas shall be turned on again.

9. In case an execution shall be issued against the consumer or in case the consumer's premises or the personal property upon said premises shall be levied upon, under attachment or execution, or in case of assignment or other acts of insolvency of the consumer, the Gas Company may terminate the contract and all claims for gas previously delivered shall become forthwith due and payable.

10. No discount for prompt payment of bills shall be allowed unless all previous just bills have been paid in full and the current bill is paid within the discount period specified on the bill.

11. The rules and regulations of the Gas Company are subject to additions and changes by the company and such

additions and changes become a part of any contract between the Gas Company and a consumer if lawful under the rules of the Public Service Commission of West Virginia or the laws governing said Commission.

ADDITIONAL RULES FOR CONSUMERS ON HIGH PRESSURE MAIN AND FIELD LINES NOT ON LOW PRESSURE SYSTEMS.

(Approved by the Commission Dec. 4, 1915.)

RULE NO. 12.

The place of delivery of the gas is at the tap on the Company's pipe line. The consumer has knowledge that the gas pressure in the Company's pipe line varies from time to time even to the extent of the sudden and entire failure of gas, and the subsequent return of the supply at uncertain hours of the day and night, and that in the regular operation of its lines for the delivery of gas to cities and towns where low pressure systems are maintained, the Gas Company cannot give notice to scattered consumers in the country districts of these changes in supply and pressure. The consumer hereby assumes the duty of regulating the flow and pressure of gas into his service line by appliances thereon, and by the necessary labor, care and supervision of the same, so that he may safely conduct said gas over his premises, and safely distribute and use it. The consumer undertakes to shut off all fires when there is no one at the residence to look after them, and assumes the responsibility of attending to his gas burning and pressure-regulating appliances at all times and under all conditions; the consumer also assumes all risks from variations in pressure caused by the use and operation of compressors; from defects in pipe connections and appliances; from the escape and leakage of gas; from the sticking of valves and regulators, and from any and all causes incident to the handling and burning of gas on

said premises, and hereby waives notice of all changes of pressure and supply.

RULE NO. 13.

The consumer will furnish and install all necessary service line to transport the gas from the Company's main to the point of consumption, and in order to secure safe and adequate service, will furnish the necessary regulators and safety appliances, required to reduce the pressure from the maximum pressure on the Company's main to eight (8) ounces. The type and number of said regulators and safety appliances, and their installation, to be subject to the approval of the Gas Company before gas will be turned into the consumer's pipes. The information necessary to determine the number of regulators and safety appliances required, will be furnished to the consumer by the Company upon application. The Company will tap its main, provide and install a nipple and stop cock to turn on and shut off the gas from the consumer's service line.

The regulator or regulators, will be installed by the consumer at the tap on the Company's line, and a safety blow-off valve, or a fluid seal, will be installed by the consumer at the outlet of the meter, so adjusted as to operate and relieve any pressure on the consumer's line over sixteen (16) ounces. The Company will furnish the regulators and appliances required, and install same at the expense of the consumer, if he so desires.

The meter furnished by the Company will be attached to the consumer's service line at the outlet of the low pressure regulator. Around the regulator or regulators, and the meter, the consumer will provide and install a substantial covering to properly protect them from the weather, and from being interfered with by irresponsible parties. Said covering to be furnished and maintained by the consumer, but the Company, by its proper representative, shall have access to the meter and regulator at all times for the purpose of reading the meter, and mak-

ing such inspections as it reasonably can, to ascertain if the meter, regulator and appliances are in proper working condition.

The consumer shall not interfere with said regulators or meters, except to see that they are kept in proper working order; neither will he increase the pressure on same without the written approval of the Gas Company, and such interference will be sufficient cause for the discontinuance of service. If, for any reason, additional pressure is necessary, arrangement for the same must be made with the Company.

RULE NO. 14.

The line from which the gas is supplied by the Company, is not intended and cannot be maintained solely for service to scattered consumers in country districts, and the Company may, at its own discretion, cease to furnish gas, either temporarily or permanently, change, repair or remove its pipe line or change the use of it, without prejudice to the right of the Company to continue its supply to other consumers. In case of cancellation of this contract, 30 days' written notice shall be given by the one cancelling to the other party. The Company shall not be liable for any deficiency in the supply caused by the use of compressing stations, breakage of lines, or other causes, or for any claim for damages on account of anything done under the provisions of this paragraph.

RULE NO. 15.

Where gas is furnished for drilling and pumping wells, and uses other than domestic consumption, the applicant agrees to use such gas under this contract, as his exclusive fuel on said premises for said purposes until this contract is terminated, and agrees to provide and install such regulators and appliances as may be necessary to control the pressure, and use the gas with safety and economy, as provided in Rule 13.

RULE NO. 16.

The Company may, at its option, read the meter quarterly instead of monthly, and require the consumer to make sufficient deposit, or give adequate guarantee as security, for that period; payment for gas in such case, shall be due within ten days after date of bill rendered, which date of payment will be approximately the 10th day of the month following the end of the quarter year.

EXHIBIT "B"

P. S. C. W. VA. No. 4.

Supersedes All Preceding Schedules

UNITED FUEL GAS COMPANY

(INCORPORATED)

NATURAL GAS

PRINCIPAL OFFICE:
CHARLESTON, WEST VIRGINIA

ISSUED APRIL 25, 1924 — EFFECTIVE MAY 31, 1924

APPLICABLE TO GAS SUPPLIED AFTER THE METER READINGS FOR THE MONTH OF MAY, 1924.

UNITED FUEL GAS COMPANY

Schedule of Rates for Natural Gas — Effective May 31, 1924.

WEST VIRGINIA

The following schedule shows all the rates charged or collected for gas supplied for any purpose, (except when sold to other gas companies) whether regularly or temporarily, and whether as a public service or otherwise, but this company has not undertaken or professed to supply natural gas to the public generally, or without special contract governing the same, except for use in and about dwelling houses, offices, stores, laundries, schools, church-

es, club houses, hospitals, hotels, and other public buildings of a similar character, and which uses of natural gas are commonly known and will be hereinafter referred to as "domestic purposes." Service to the class of consumers, which this company undertakes to supply generally in the localities hereinafter listed, includes the supplying of natural gas for cooking, and for heating and lighting dwelling houses, regardless of the appliances used by the consumer. It also includes the supplying of gas for use in offices, clubhouses, laundries, schools, churches, hospitals, stores, hotels, and other public buildings, but, at the option of such consumers, that part of the gas used by them for heating their boilers will be supplied, through a separate meter, at the lower rate hereinafter mentioned as the manufacturing rate, upon condition that the consumer enter into a special contract such as that hereinafter mentioned, as required of consumers for manufacturing purposes, agreeing to accept a service for such boilers subordinate to that furnished to dwelling houses, by substituting coal or other fuel for heating the same when the company may require its entire supply for the use of its domestic consumers, who are charged the regular domestic rate.

Service for domestic purposes is furnished, subject to the uniform rules and regulations hereinafter set forth, for premises adjacent to streets or highways on which low pressure lines are laid, at the localities hereinafter mentioned, to all persons making the formal written application therefor, prescribed by the company, and agreeing to be bound by said rules and regulations as part of the contract relation created between the applicant and the company upon the acceptance by the latter of such application.

In addition to the foregoing this company, as incidental to its public service, supplies natural gas to persons, firms and corporations under contracts, limited as to time and amount, for manufacturing purposes and for mining operations at the localities hereinafter mentioned, at what is

[illegible] in this schedule, the rate for "Manufacturing Service," but only upon express condition that the service for such purposes is subordinate to the service given to domestic consumers, and may be discontinued at such time or times as may be necessary, in the judgment of the gas company, for the adequate supply of domestic consumers; but this company does not profess to supply all applicants for gas for such purposes, nor to be a public servant as to such service.

Gas furnished for use in gas engines is charged for at the rate for manufacturing service, provided such gas engines constitute part of the operating equipment of a factory in which gas is, at the same time, supplied for boilers, or furnaces in which fuel other than gas can be readily substituted; and provided further, that the said gas engines are not used or operated when the supply of gas to discontinued at other parts of the factory for the benefit of domestic consumers. If gas is furnished for use in gas engines under different circumstances than those above mentioned, it is charged for at the domestic rate.

[illegible]

[illegible]

[illegible]:

For the first [illegible] cubic feet, [illegible] per [illegible] cubic feet.

Minimum monthly charge, [illegible].

[illegible] [illegible], [illegible] [illegible], [illegible] [illegible] [illegible]

[illegible]:

For the first [illegible] cubic feet, [illegible] per [illegible] cubic feet.

Minimum monthly charge, [illegible].

[illegible]

[illegible]:

For the first [illegible] cubic feet, [illegible] per [illegible] cubic feet.

Minimum monthly charge, [illegible].

[illegible]:

[illegible] SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 125,000 cubic feet each calendar month 30c per 1,000 cubic feet.

(A) Second 125,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 250,000 cubic feet each calendar month 28c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

[illegible]:

[illegible] SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

[illegible]:

[illegible] SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

[illegible]:

[illegible] SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

[illegible], [illegible] [illegible], [illegible] COUNTY:

[illegible] SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CEDAR GROVE:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CEDARVILLE:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CERRITO:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CHARLESTON:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 30c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 28c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

Manufacturing service rate applies to State Buildings and Public Schools.

CHELAN:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CHERRY TREE BOTTOM:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CLENDENIN:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

CHURCHES:

12½c per 1,000 cubic feet. Rate provided for in franchise.

STREET LIGHTS:

25c per month for each one-mantle lamp.

25c per month for each additional mantle.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

COALBURG:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

CULLODEN:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

EAST BANK:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

EAST LYNN:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

ELK VIEW:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

FORT GAY:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

GAY:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

HUNT:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

HUNTINGTON:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

HURRICANE:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

STREET LAMPS:

25c per lamp, per month. Rate provided for in franchise.

JORDAN CREEK:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

KANAWHA CITY:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

KENOVA:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

KERMIT:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

KING:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

KYGER:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

LOCK SEVEN:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

LOGAN:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

McCLANAHAN:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MILLIKEN:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

NEWTON:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

NITRO:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

ONA:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

POCA:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

QUICK:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RAVENSWOOD:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

REEDY:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

STREET LIGHTS:

50c per light per month.

RICH CREEK:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RIPLEY:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

STREET LIGHTS:

50c per light per month.

SANDYVILLE:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

SILVERTON:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

SISSONVILLE:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

SPENCER:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.
All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.
Discount 1c per 1,000 cubic feet.

STREET LIGHTS:
City of Spencer, $2.50 per light per year.
Private consumer, 50c per light per month.

STOFFLE:
DOMESTIC SERVICE:
(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.
Minimum monthly charge, 50c.

THREE MILE:
DOMESTIC SERVICE:
(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.
Minimum monthly charge, 50c.

WALGROVE:
DOMESTIC SERVICE:
(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.
Minimum monthly charge, 50c.

WALTON:
DOMESTIC SERVICE:
(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.
Minimum monthly charge, 50c.

WILLIAMSON:
DOMESTIC SERVICE:
(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.
Minimum monthly charge, 50c.

MANUFACTURING SERVICE:

First 150,000 cubic feet each calendar month 39c per 1,000 cubic feet.

(A) Second 150,000 cubic feet each calendar month 32c per 1,000 cubic feet.

All over 300,000 cubic feet each calendar month 24c per 1,000 cubic feet.

Discount 1c per 1,000 cubic feet.

WILSON HOLLOW, CHARLESTON DISTRICT, KANAWHA COUNTY:

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RURAL DISTRICTS—Convenient to present lines in localities not listed above and not connected with any low pressure distributing plant.

CABELL COUNTY.
- Barboursville District.
- Grant District.
- Guyandotte District.

LINCOLN COUNTY.
- Carroll District.
- Duval District.

ROANE COUNTY.
- Curtis District.
- Geary District.
- Harper District.
- Reedy District.
- Smithfield District.
- Spencer District.
- Walton District.

KANAWHA COUNTY.
- Big Sandy District.
- Cabin Creek District.
- Charleston District.
- Elk District.
- Jefferson District.
- Malden District.
- Poca District.
- Union District.

PUTNAM COUNTY.
- Curry District.
- Scott District.
- Teays Valley District.

WAYNE COUNTY.
- Ceredo District.

JACKSON COUNTY.
- Ravenswood District.
- Ripley District.
- Washington District.

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RURAL DISTRICTS (Continued).

BOONE COUNTY.
Washington District.

MINGO COUNTY.
Hardee District.
Harvey District.
Lee District.
Warfield District.

LOGAN COUNTY.
Chapmansville District.

WAYNE COUNTY.
Butler District.
Lincoln District.
Stonewall District.
Union District.

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

GILMER COUNTY.
Center District.

CALHOUN COUNTY.
Washington District.

DOMESTIC SERVICE:

(A) 40c per 1,000 cubic feet; discount 2c per 1,000 cubic feet.

Minimum monthly charge, 50c.

RATES FOR DRILLING WELLS, PRODUCING OIL AND GAS, PUMPING OIL, ETC., SERVICE LINES FURNISHED BY THE CONSUMER.

RATES IN THE FOLLOWING SCHEDULE, WHEN BASED ON TOUR OF TWELVE HOURS OR LESS, ARE TO BE DOUBLED WHEN GAS IS USED FOR MORE THAN TWELVE HOURS.

Pumping well with steam engine, each well per month, or fraction thereof $15.50

Pumping well with separate gas engines, each well per month, or fraction thereof 7.50

Pumping wells connected by shackle work with gas engine:	
First well per month, or fraction thereof	7.50
Each additional well on same power per month, or fraction thereof	3.00
Cleaning out well with steam engine, per tour 12 hours or less	4.00
Cleaning out well with gas engine, per tour 12 hours or less	1.50
Tubing well with steam engine, per tour 12 hours or less	3.50
Tubing well with gas engine, per tour 12 hours or less	2.00
Pulling rods with steam engine, per tour 12 hours or less	3.50
Pulling rods with gas engine, per tour 12 hours or less	2.00
NOTE.—No charge for tubing well or pulling rods when charge for pumping is made against the well at the monthly rate of $15.50 for pumping with steam engine, or $7.50 monthly for pumping with gas engine.	
Pulling casing with steam engine, per tour 12 hours or less	3.50
Pulling casing with gas engine, per tour 12 hours or less	2.00
Steaming oil per tank, 100 bbls. or less	1.00
Steaming oil, per tank of more than 100 bbls. and not more than 250 bbls.	1.75
Steaming oil, tankage in excess of 250 bbls. at 66 2/3c per 100 bbls.	66 2/3
Pumping oil with steam per tank, 100 bbls. or less	1.50
Pumping oil with steam per tank of more than 100 bbls. and not more than 250 bbls.	2.25
Pumping oil with steam, tankage in excess of 250 bbls. at 90c per 100 bbls.	90

Plunging valve with stroke per hand, 100 kilos. or less 1.50

Plunging valve with stroke per hand of more than 100 kilos. and not more than 250 kilos. 2.25

Plunging valve with stroke, horsepower to exceed of 250 kilos. or less per 100 kilos. ..... .60

Jetting valve with stroke pressure, per hose 12 hours or less 2.25

DRILLING WELLS

Drilling wells, including fuse and three hour lights, (Drain hose light or similar burner) per hose 12 hours or less 6.75

Drilling wells, including fuse, (where electric lighting system is used) per hose 12 hours or less 6.75

Extra fuse per day ..... .30

Extra hose lights per month, each. (Drain or similar burner) 12.00

Extra hose lights per night, each. (Drain or electric burner) ..... .50

Blasting stone with dynamite per pound 1.50

Blasting stone with dynamite, per day ..... .50

Boilers for drilling machine for water wells, per hose 12 hours or less 4.00

Plunging valve for drilling wells for the usual machine hose drilling, per day 2.00

WATER WELLS

Plunging valve with stroke, small Standard pump not over 3½ inch cylinder, per hose 12 hours or less 3.00

Plunging valve with stroke, large Standard pump not over 7 inch cylinder, per hose 12 hours or less 2.50

Plunging valve with gas engine, 12 horse to one thousand, per horse power 2.25

Plunging valve with gas engine, less than 12 horse, per horse power ..... .60

(A.) We pay [illegible] cubic feet; subject to a discount of [illegible] per 1,000 cubic feet for payment on or before the tenth day of the month following that in which the gas is consumed.

UNIFORM RULES AND REGULATIONS GOVERNING DOMESTIC CONSUMERS

Adopted by Representatives of the West Virginia Natural Gas Association and the Chief Engineer of the Public Service Commission, October 13, 1915.

Approved by the Public Service Commission, October 14, 1915.

1. The Gas Company will furnish and install the following appliances and piping which remain its property, viz: The pipe between its gas main and the consumer's property line; a street connection stop cock and curb box, and a meter. The street connection stop cock will be installed at a convenient place between the property line and the curb, and that portion of the piping from main to street connection stop cock shall be known as the Gas Company's street connection.

2. The consumer hereby undertakes to furnish and lay the necessary pipe to make the connection from the consumer's property line to the place of consumption and to keep the service line from the street connection stop cock to the place of consumption in good repair, but the Gas Company shall pay the expense of any repairs to that portion of the service line between the street connection stop cock and the property line, but the consumer otherwise shall not make change in or interfere with said service line without the written consent of the Gas Company. The character and arrangement of the service line shall be subject to the approval of the Gas Company but the Gas Company shall not be responsible for or have any duty or obligation with respect to the same. In the installation of a service line the consumer must not install

any tees or branch connections and must leave the trench open and pipe uncovered until it is exhibited to the Gas Company's inspector free from such irregularities.

3. The consumer shall use all due care to prevent waste of gas. The responsibility of detection of defects and leaks on the consumer's premises and in the service line is upon the consumer and in case of failure or deficiency of gas, irregular supply, leakage, excessive pressure and other developments incident to handling gas under pressure, the consumer agrees to give immediate notice thereof to the Gas Company, and his failure to do so, should loss follow, shall be negligence.

4. The authorized agent of the Gas Company shall at all reasonable times have free access to the premises of the consumer with the right to shut off the gas and remove its property from the premises for any of the following reasons:

First: For repairs.

Second: For non-payment of any bill due under this or any previous contract.

Third: For fraudulent tampering with the meter or piping on the premises.

Fourth: Removal of the consumer from the premises.

Fifth: For selling or delivering gas to other occupants of the premises without the written permission of the gas company.

Sixth: For failure to make or increase an advance payment or deposit on the lawful demand of the Gas Company.

Seventh: Upon permanent exhaustion of the supply.

Eighth: For leakage or waste of gas from consumer's piping.

Ninth: For failure to comply with these rules and regulations or for the violation of any of them.

5. The Gas Company may, as provided by law, require a deposit or guarantee or advance payment, or such an increase in such deposit or guarantee or advance payment

for gas to be supplied, and may apply such deposits to bills previously incurred by the consumer under this or previous contracts with the Gas Company.

6. The Gas Company does not guarantee or undertake to furnish a sufficient supply of gas at all times and shall not be liable for failure to do so, beyond its available supply; nor shall it be liable for any injury to person or property from any cause arising inside the street connection stop cock not the result of the negligence of the Gas Company; nor shall it be liable for any injury to person or property arising from the use of gas, by, or the supply of gas to, the consumer which is not the result of negligence on the part of the gas company.

7. This contract is not transferable.

Consumers must make application in person at the office of the Gas Company at the time they commence the use of gas, or they will be held responsible for the back charges against the premises.

8. Whenever gas shall be turned off or meter disconnected by reason of non-compliance with the gas company's rules, an extra charge of one dollar ($1.00) must be paid at the Gas Office before the gas shall be turned on again.

9. In case an execution shall be issued against the consumer or in case the consumer's premises or the personal property upon said premises shall be levied upon, under attachment or execution, or in case of assignment or other acts of insolvency of the consumer, the Gas Company may terminate the contract and all claims for gas previously delivered shall become forthwith due and payable.

10. No discount for prompt payment of bills shall be allowed unless all previous just bills have been paid in full and the current bill is paid within the discount period specified on the bill.

11. The rules and regulations of the Gas Company are

subect to additions and changes by the company and such additions and changes become a part of any contract between the Gas Company and a consumer if lawful under the rules of the Public Service Commission of West Virginia or the laws governing said Commission.

ADDITIONAL RULES FOR CONSUMERS ON HIGH PRESSURE MAIN AND FIELD LINES NOT ON LOW PRESSURE SYSTEMS.

(Approved by the Commission Dec. 4, 1915.)

RULE NO. 12.

The place of delivery of the gas is at the tap on the Company's pipe line. The consumer has knowledge that the gas pressure in the Company's pipe line varies from time to time even to the extent of the sudden and entire failure of gas, and the subsequent return of the supply at uncertain hours of the day and night, and that in the regular operation of its lines for the delivery of gas to cities and towns where low pressure systems are maintained, the Gas Company cannot give notice to scattered consumers in the country districts of these changes in supply and pressure. The consumer hereby assumes the duty of regulating the flow and pressure of gas into his service line by appliances thereon, and by the necessary labor, care and supervision of the same, so that he may safely conduct said gas over his premises, and safely distribute and use it. The consumer undertakes to shut off all fires when there is no one at the residence to look after them, and assumes the responsibility of attending to his gas-burning and pressure-regulating appliances at all times and under all conditions; the consumer also assumes all risks from variations in pressure caused by the use and operation of compressors; from defects in pipe connections and appliances; from the escape and leakage of gas; from the sticking of valves and regulators, and from any and all causes incident to the handling and burning of gas on

said premises, and hereby waives notice of all changes of pressure and supply.

RULE NO. 13.

The consumer will furnish and install all necessary service line to transport the gas from the Company's main to the point of consumption, and in order to secure safe and adequate service, will furnish the necessary regulators and safety appliances, required to reduce the pressure from the maximum pressure on the Company's main to eight (8) ounces. The type and number of said regulators and safety appliances, and their installation, to be subject to the approval of the Gas Company before gas will be turned into the consumer's pipes. The information necessary to determine the number of regulators and safety appliances required, will be furnished to the consumer by the Company upon application. The Company will tap its main, provide and install a nipple and stop cock to turn on and shut off the gas from the consumer's service line.

The regulator or regulators, will be installed by the consumer at the tap on the Company's line, and a safety blow-off valve, or a fluid seal, will be installed by the consumer at the outlet of the meter, so adjusted as to operate and relieve any pressure on the consumer's line over sixteen (16) ounces. The Company will furnish the regulators and appliances required, and install same at the expense of the consumer, if he so desires.

The meter furnished by the Company will be attached to the consumer's service line at the outlet of the low pressure regulator. Around the regulator or regulators, and the meter, the consumer will provide and install a substantial covering to properly protect them from the weather, and from being interfered with by irresponsible parties. Said covering to be furnished and maintained by the consumer, but the Company, by its proper representative, shall have access to the meter and regulator at all times for the purpose of reading the meter, and mak-

ing such inspections as it reasonably can, to ascertain if the meter, regulator and appliances are in proper working condition.

The consumer shall not interfere with said regulators or meters, except to see that they are kept in proper working order; neither will he increase the pressure on same without the written approval of the Gas Company, and such interference will be sufficient cause for the discontinuance of service. If, for any reason, additional pressure is necessary, arrangement for the same must be made with the Company.

RULE NO. 14.

The line from which the gas is supplied by the Company, is not intended and cannot be maintained solely for service to scattered consumers in country districts, and the Company may, at its own discretion, cease to furnish gas, either temporarily or permanently, change, repair or remove its pipe line or change the use of it, without prejudice to the right of the Company to continue its supply to other consumers. In case of cancellation of this contract, 30 days' written notice shall be given by the one cancelling to the other party. The Company shall not be liable for any deficiency in the supply caused by the use of compressing stations, breakage of lines, or other causes, or for any claim for damages on account of anything done under the provisions of this paragraph.

RULE NO. 15.

Where gas is furnished for drilling and pumping wells, and uses other than domestic consumption, the applicant agrees to use such gas under this contract, as his exclusive fuel on said premises for said purposes until this contract is terminated, and agrees to provide and install such regulators and appliances as may be necessary to control the pressure, and use the gas with safety and economy, as provided in Rule 13.

RULE NO. 16.

The Company may, at its option, read the meter quarterly instead of monthly, and require the consumer to make sufficient deposit, or give adequate guarantee as security, for that period; payment for gas in such case, shall be due within ten days after date of bill rendered, which date of payment will be approximately the 10th day of the month following the end of the quarter year.

Exhibit P. S. C. Opinions

THE PUBLIC SERVICE COMMISSION

OF

WEST VIRGINIA

CAPITOL BUILDING, CHARLESTON.

Case No. 1516.

In re: United Fuel Gas Company,
Investigation and Suspension of P. S. C. W. Va. No. 4, prescribing rates for natural gas to its consumers within the State of West Virginia.

Submitted February 25, 1925. Decided March 24, 1925.

APPEARANCES:

For the United Fuel Gas Company, R. G. Altizer and Harold A. Ritz, Charleston, West Virginia.

For the Protestants: City of Charleston, H. D. Rummel; City of Huntington, C. W. Strickling and Paul W. Scott; Town of Ripley and Town of Ravenswood, Clyde B. Johnson and T. J. Sayre; Manufacturers Club of Huntington, West Virginia, George S. Wallace; Industrial Gas Consumers of Charleston and vicinity, including, Dunkirk Window Glass Company, Westvaco Chlorine Products Company, West Virginia Brick Company, Standard Brick and Supply Company, Ward Engineering Works, Kanawha

Brick Company, Kanawha Manufacturing Company, Kanawha Ice Company, Diamond Ice & Coal Company, Elite Laundry Company, Superior Laundry Company, Charleston Laundry Company, Kanawha Woolen Mills Company and Charleston Lumber Company, by Price, Smith & Spilman.

STATHERS, CHAIRMAN:

On the 26th day of April, 1924, the United Fuel Gas Company, hereinafter called the Gas Company, filed with the Public Service Commission its tariff or schedule of rates for natural gas, effective May 31, 1924, increasing its then existing rates for natural gas supplied by it to its consumers within the State of West Virginia, the said tariff or schedule of rates being designated "P. S. C. W. Va. No. 4." By an order entered on said 26th day of April, 1924, the operation of said tariff or schedule and the effective date thereof was postponed and suspended until the 22nd day of August, 1924, and the initial hearing for the purpose of inquiring into the said tariff or schedule set down at the offices of the Commission on the 28th day of May, 1924, the Gas Company being required to give full notice of such hearing in the manner detailed in said order. The taking of evidence was begun on said 28th day of May, 1924, and continued and held from time to time until the 23rd day of January, 1925. Following the said suspension order of April 26th, 1924, the Commission needed additional time for a full hearing and investigation of the matters embraced in this proceeding and for the rendering of a final decision, suspended and postponed the effective date of said tariff or schedule, as the necessity for such suspension and postponement appeared, the last suspension order being entered on the 18th day of February, 1925, whereby the effective date and operation of said tariff or schedule was further suspended and postponed until the 25th day of March, 1925. Other

than the said tariff or schedule "P. S. C. W. Va. No. 4" no petition, answer or other form of application or protest was filed, the proceeding being heard upon the said tariff or schedule only. On the day of the initial hearing the Gas Company moved that this proceeding and its Case No. 1251 be consolidated, which motion was resisted by the protestants. On a later day the protestants joined in said motion, which was granted by the Commission; whereupon the two proceedings were consolidated and heard together. Following the close of the taking of testimony on said 23rd day of January, 1925, briefs were filed by counsel for the Gas Company and counsel for the protestants, the last of such briefs being presented on the 25th day of February, 1925.

While this is the first proceeding instituted by this company upon the mere filing of a tariff or schedule of rates, as permitted by statute, yet this company has filed applications seeking the authority of this Commission to increase its natural gas rates. These applications are known as Case No. 482, decided December 7th, 1916; Case No. 585, decided February 28th, 1918; Case No. 845, decided December 19th, 1919, and Case No. 1251, decided April 28th, 1922. The first three cases are reported in Volume I—Decisions—Public Service Commission of West Virginia, at pages 238, 501, and 651, respectively. Case No. 1251 is reported in Bulletin No. 70. This last mentioned Case No. 1251 was heard a second time following a motion of the Gas Company made after the filing of a report required by the Commission in the order entered by it in the original hearing, on April 28th, 1922. The report of this second proceeding appears in Bulletin No. 82. From the findings of the Commission as set out in said Bulletin No. 82 the cities of Charleston, Williamson, Kenova, Spencer and Logan and other protestants appealed to the Supreme Court of Appeals of West Virginia, the proceeding in that court being entitled City of Charleston, et al. vs. The Public Service Commission of West Virginia, et al. This appeal was decided by said

Supreme Court on November 27th, 1923, the said findings and order of the Commission being reversed and set aside and the proceeding remanded to the Commission "for such further investigation and order as may be proper." Upon the case coming back here no action was taken therein until after the filing of said tariff on schedule on April 26th, 1924, in this case, and the first day of the initial hearing when, on hereinbefore stated, counsel for the Gas Company moved a consolidation of said Case No. 1251 and this Case No. 1106, which motion on a later day was granted, and, accordingly thereto, the proceedings here have been heard together and the findings and order herein are made upon the record in said Case No. 1251 and the record in this particular proceeding.

No questions have been raised or presented which were not considered by the Commission in said Case No. 1251, and other than a more elaborate development of the matters and questions considered by the Commission in said case, and bringing down all matters to a recent date, the facts are the same as those embodied in the last decision of said Case No. 1251 (Bulletin No. 9). And as those facts, as well as a full history of the Gas Company, are set out in the said opinion and reports to which reference has been made, particularly in the said two bulletins covering said Case No. 1251 and the said opinion of the Supreme Court of Appeals, for the sake of brevity and in order to keep this opinion within reasonable limitations, no special analysis of the facts of the history of the company will be made. However, both the history of the company and matters of evidence will be developed to an extent sufficient for an understanding of the Commission's findings upon the questions presented.

Under this consolidation record the questions with which we are concerned, most of them being the same questions passed upon in the said two hearings of said Case No. 1251 and upon said appeal and submitted upon here, are:

I. What is the present fair value of the Gas Corporation's property?

And in arriving at the proper answer to this question,—

What value should be given to the gas contracts, franchise or the prevailing tendency of the Gas Company?

II. How much of the Gas Company's property has been retired or abandoned, and what allowance on account thereof must be allowed for the future?

III. What depreciation and depletion rate, either or both, must be allowed?

IV. What is a fair return on the present fair value of the Gas Company's property?

V. What income, if any, from the gasoline business operated by the Virginian Gasoline & Oil Company, a subsidiary of the Gas Company, should be credited and allowed to the business of the Gas Company?

VI. What weight, if any, should be given to "the cost of the service"?

VII. What is the annual revenue and annual expenses of the Gas Company, including what interest or income, if any, the Gas Company should be charged with receiving from the notes of, or to the power companies?

VIII. Are the rates fixed just and reasonable; if not, what are just and reasonable, including whether or not the existing rates are just and reasonable?

II

FINDINGS OF VALUATION

(a) Physical Property

In evaluating the property of the Gas Company to this end, the Commission is fortunate in having submitted to it the book cost, the estimated historical cost and the estimated reproduction cost of the property involved. Considering first the physical property only we find the

Uebelacker, Engineer, witness for the Gas Company, arrives at an estimated reproduction cost new of $37,054,425.00 as of December 31st, 1923. This estimate includes direct and general overhead charges as ascertained by Mr. Uebelacker, but it does not include "estimated value of leaseholds and natural gas rights," nor does it include working capital and going value; these items not being regarded as a part of the physical property. By what is known as "the observed depreciation method," involving a thorough investigation and inspection of the property as fully described by Mr. Uebelacker in his reports and testimony, Mr. Uebelacker estimates the reproduction cost, new, of this property, "less deterioration", as of December 31st, 1923, at $28,631,320.00. (U. Ex. No. 1, record 46-48.)

Mr. Hagenah, expert witness introduced by the protestants, in his testimony and "Hagenah Ex. No. 1" filed therewith, fixes the reproduction cost, new, of this same physical property as of the same date at $35,391,152.00, and he estimates the reproduction cost new, "less deterioration" (depreciation) at $23,969,180.00. (Hagenah Ex. No. 1, 1-2.)

From another exhibit filed with the testimony of Mr. Uebelacker, "U. Ex. No. 3," the same being the "Estimated Historical Cost" of all of the property of this company, as of the same date, that is December 31, 1923, we find Mr. Uebelacker's estimate of the historical cost of the physical property is $25,480,378.33. This estimate includes direct overheads and general overheads as used by Mr. Uebelacker in arriving at his reproduction cost estimates "with the exception that interest has been taken at 6% instead of 8% as used in the other report." ("U. Ex. No. 3", pp. 10-11-13.)

The book cost is thoroughly covered in the testimony of Mr. Jirgal, protestants' witness, and is clearly set out in the exhibits furnished by him. We find that the book cost of this property as of December 31st, 1923, is $19,945,582.16. (Jirgal Ex. No. 1, p. 13.)

The protestants, through their expert witness, Mr. Hagenah, attack the reproduction cost estimate of the Company's witness, Mr. Uebelacker, in three particulars, that is, depreciation, cost of financing and interest during construction, the latter two being included among the general overhead charges. As indicated herein, in arriving at the reproduction cost of the physical property, less depreciation, Mr. Uebelacker reaches the extent or amount of deterioration or depreciation through what is called the "observed depreciation method." Mr. Hagenah (Hagenah Ex. No. 1) disapproves of this method and in its place offers a combination of "the observed depreciation method" and "the amortization rule," explaining on page three of said exhibit in the following language:

> "In all cases where the normal life of the property will be cut short by the exhaustion of the gas reserves, the present condition has been ascertained by the application of the amortization rule; but in all other respects the facts as found by Ford, Bacon and Davis have been accepted."

It is clear that, in ascertaining the depreciation through his method, Mr. Uebelacker made a thorough inspection of the property and carefully observed its present condition. We are not unmindful of the fact that "the observed depreciation method" may have its shortcomings in that there may be certain parts of the property which are not visible to the eye and which cannot be inspected. Apparently realizing this, Mr. Uebelacker was unusually careful; it appearing from his testimony that the extent of the deterioration of the field lines, transmission lines and distribution lines was determined "from actual observation of pipe in place at points uncovered for the purpose of the inspection," and that, in addition to "a careful inspection" of the whole plant, he made "a review of all the records of the past operations of the engines and other property and of the records pertaining to the maintenance and general upkeep of the units." Mr. Hagenah would have us speculate as to what may be

come of this physical property when the gas fields with which it is connected are depleted and exhausted; he would have us assume that the cities of Charleston and Huntington "will be supplied by artificial gas plants" in connection with which "the present distribution system" may be used and he would have us indulge in further calculation concerning the physcial life of certain of the property and take care of depreciation therein through "the amortization rule." This theoretical procedure advocated by Mr. Hagenah must give way to the facts as found by Mr. Uebelacker. It is the present condition of the property with which we are concerned in arriving at its fair present value. The method of Mr. Uebelacker has the support of a recent decision of the United States Supreme Court in Pacific Gas and Electric Co. v. San Francisco, (U. S.) P. U. R. 1924 D, 817, wherein, speaking for the Court, Mr. Justice McReynolds says:

> "In order to determine accrued depreciation and ascertain true values during the years 1913-1916, the master applied the 'modified sinking fund method.' * * *
>
> Appellant objects to the application of this method, and insists that depreciation should have been ascertained upon full consideration of the definite testimony given by competent experts who examined the structural units, spoke concerning observed conditions, and made estimates therefrom. As these examinations were made subsequent to the alleged depreciation, for the definite purpose of ascertaining existing facts, we think the criticism is not without merit. Facts shown by reliable evidence were preferable to averages based upon assumed probabilities."

If there was any doubt as to what Mr. Uebelacker meant by "cost of financing" after he first testified in this case, that doubt was removed by him in "Uebelacker Exhibit No. A", as was also the matter of interest during construction. Further, other testimony in the record sustains Mr. Uebelacker in his figures as to cost of financing and interest during construction, both of which are al-

lowed and considered by the Commission in connection with Mr. Uebelacker's estimate of reproduction cost new of this property.

While no exception is taken thereto, we are of opinion that Mr. Uebelacker is in error in including in his estimated reproduction cost the cost of drilling "dry holes." As the value which we are seeking is the value of the used and useful property of this company in the service of the public, it follows that the only property which should be included in any estimate of reproduction cost should be that used and useful property. In this connection it must be remembered that in any operated plant and in this plant, the cost of "dry holes" is taken care of through operating expenses; such cost does not go to capital account. If a public utility furnishing water had drilled "a dry hole" in its search for water, could such "dry hole" be given a value in determining the present fair value of the property of such utility? If a reservoir had been abandoned by such water company, could this Commission include the cost of the abandoned reservoir, as well as the cost or value of the used reservoir, in its findings of the present fair value of the water company? Certainly not, and it has been so held frequently. The allowance for "dry holes" in the reproduction cost new, less depreciation, estimate of Mr. Uebelacker is $254,332.09; which sum is disallowed. While not so advanced here, yet we realize that the claim might be made that some value should be given to such "dry holes" because of the fact that they have had a certain use and been of some advantage to the Gas Company in defining its gas territory, but any such value as they may have in this respect should be, and is, included and considered as one of the elements of going concern value.

We are of opinion, also, that through the method used by Mr. Uebelacker in adding both direct overhead and general overhead charges to his estimate of reproduction cost new there may be an overlapping or duplication of certain overhead charges, yet the record shows no such

overlapping or duplication, the testimony being confined to Mr. Hagenah's statement that,—

> "The provision for overhead charges included in the appraisal is also excessive. Because of the substantial provision made for sundry items of overhead expenses in the unit cost the allowance for general overhead charges should not exceed 18%, and this provision is included in the attached summary."

This statement and similar statements by Mr. Hagenah, standing alone, are not sufficient to overthrow the testimony of Mr. Uebelacker and certain sustaining testimony in connection therewith offered by the Company; so that, upon the record, the Commission must allow these overhead charges as given by Mr. Uebelacker.

An unusual and marked difference exists between the book cost of the property here under discussion and the estimated historical cost, the book cost being $19,945,582.16 and the "estimated historical cost," as designated and fixed by Mr. Uebelacker, being $25,480,378.33, a difference of $5,534,796.17. In view of the fact that the greater part of this property was purchased, constructed and put into operation during the period of high prices, it would seem that there should not be so great a difference between the book cost and the historical cost. Looking for the reason for this difference, an examination of Mr. Uebelacker's report upon the estimated historical cost "U. Ex. No. 3," shows that in making up an estimate for the physical property "now in existence and installed prior to December 31, 1915," he took "prices representing the average of the ten year period, 1906 to 1915," and that "The cost of property installed since 1916 was determined from the records of the company, which showed the net cost of additions and retirements from December 31, 1915, to August 31, 1923," so that for the period of high prices the historical cost and the book cost are substantially the same, whereas from the period of 1906 to 1915 an average price is used. But a more substantial

and likely reason for this difference appears from the statement of Mr. Uebelacker that he used the same direct overheads "for the period of 1906 to 1915" as he used "in the reproduction valuation report as of December 31, 1923," and that the general overheads included are the same as those "described in detail" in the said valuation report, (U. Ex. No. 1) "with the exception that interest has been taken at 6% instead of 8% as used in the other report, (U. Ex. No. 3, pp. 1-10). Finding this to be the basis upon which Mr. Uebelacker made his historical cost estimate, necessarily we must reach the conclusion that his estimated historical cost more nearly represents the reproduction cost estimate than it does the book cost estimate. And here it should be added that the book records of this Company are complete and, so far as book costs are concerned, may be relied upon.

As indicated in the opening paragraph, there has been developed fully for the Commission estimates of the reproduction cost new and less depreciation, an estimate of the historical cost and the book cost of the property. Having these estimates and the book cost, the Commission is not dependent wholly upon any one of them as sometimes proves to be true. The Commission has before it for the years covering the life of the Gas Company, as represented by the book cost, and for the present, as represented by both the reproduction and the historical cost estimates, the prices and cost of material and labor during what is generally regarded as "the period of high prices." Likewise, it has before it the costs and prices prevailing prior and subsequent to such period. Giving consideration to the whole record, the Commission has had the benefit "of all relevant facts" and is in a position to find a value from such facts agreeable to the principles enunciated upon the subject of "present fair value" by our own Supreme Court of Appeals and by the United States Supreme Court and cases there cited:

Smythe v. Ames, 169 U. S. 466; 42 Law Ed. 819;

Willcox v. Consolidated Gas Co., 212 U. S. 19; 53 Law Ed. 382;

Simpson, et al. v. Shepard, (Minnesota Rate Cases) 230 U. S. 352; 57 Law Ed. 1511;

Bluefield Water Works, Etc., Co. v. P. S. C. of W. Va., 261 U. S. 579; 67 Law Ed. 1176;

Southwestern Bell Tel. Co., etc., v. P. S. C., 262 U. S. 276; 67 Law Ed. 981;

Georgia R. & P. Co., et al. v. Georgia R. R. Com., 262 U. S. 625; 67 Law Ed. 1144;

City of Charleston v. Public Service Commission, 95 W. Va. 91;

Natural Gas Company of W. Va. v. Public Service Com., 95 W. Va. 557.

We cannot find the reproduction cost estimates, new or less depreciation, as the present fair value of this property, in view of the book cost and said estimated historical cost and the evidence in connection therewith appearing in the record. The value we reach is below the said reproduction cost, less depreciation, estimate of Mr. Uebelacker, and above that of Mr. Hagenah, but we have given substantial consideration to these estimates. In supporting and sustaining our action in this respect, we cite the above cases; and, being particularly in point, we quote from the opinion in Georgia Railway and Power Co., et al. v. Railroad Commission, *supra*, wherein Mr. Justice Brandeis, speaking for the Court, says:

> "The refusal of the Commission and of the lower court to hold that, for rate-making purposes, the physical properties of a utility must be valued at the replacement cost less depreciation was clearly correct. As was said in Minnesota Rate Cases, 230 U. S. 352, 434, 57 Law Ed. 1511, 48 L. R. A. (N. S.) 1151, 33 Sup. Ct. Rep. 729, Ann. Cas. 1916A, 18: 'The ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts.'

What these relevant facts are had been stated in Smythe v. Ames, 169 U. S. 466, 546, 547, 42 L. ed. 819, 19 Sup. Ct. Rep. 418:

'• • • the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, that which the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth.'

And in Willcox v. Consolidated Gas Co., 212 U. S. 19, 52, 53 L. ed. 382, 48 L. R. A. (N. S.) 1134, 29 Sup. Ct. Rep. 192, 15 Ann. Cas. 1034, it has been made clear 'that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property, which legally enters into the consideration of the question of rates, has increased in value since it was acquired, the company is entitled to the benefit of such increase.'

The rule laid down in these cases was expressly recognized as controlling, both by the Commission and by the lower court. Evidence bearing on most of the facts there declared to be relevant facts was before them. The court states, and the record establishes, that 'the opinion of the • • • Commission • • • evinces a full and conscientious consideration of the evidence.' The opinion of the court shows that it also made careful examination of the evidence submitted and that it recognized the applicable rules of law. While it differed from the Commission in some matter of detail, it sustained the latter's finding that the value was

> $5,250,000. The question on which the court divided in the Southwestern Bell Telephone case, *supra*, is not involved here."

And, further, in another connection, Mr. Justice Brandeis says:

> "The case is unlike Missouri, *ex rel.* Southern Bell Teleph. Co. v. Public Service Commission, No. 158, decided May 21, 1923, (.... U. S. ....), P. U. R. 1923C, 193, ... L. ed. ...., ... Sup. Ct. Rep. ....). Here the Commission gave careful consideration to the cost of reproduction; but it refused to adopt reproduction cost as the measure of value. It declared that the exercise of a reasonable judgment as to the present 'fair value' required some consideration of reproduction cost as well as of original costs, but that 'present fair value' is not synonymous with 'present replacement cost,' particularly under abnormal conditions. That part of the rule which declares the utility entitled to the benefit of increases in the value of property was, however, specifically applied in the allowance of $125,000 made by the Commission to represent the appreciation in the value of the land owned. The lower court recognized that it must exercise an independent judgment in passing upon the evidence; and it gave careful consideration to replacement cost. But it likewise held that there was no rule which required that in valuing the physical property there must be 'slavish adherence to cost of reproduction less depreciation.' It discussed the fact that since 1914 large sums had been expended annually on the plant; that part of this additional construction had been done at prices higher than those which prevailed at the time of the rate hearing; and it concluded that 'averaging results and remembering that values are * * * matters of opinion * * * no constitutional wrong clearly appears.'"

And adhering to this view, our own Supreme Court recently in Natural Gas Company of West Virginia v. Public Service Commission, *supra*, through the opinion by Meredith, President, declared:

> "The Commission will give such weight to the reproduction new value, less depreciation, as it considers it entitled to, being guided at all times by the principle that the company is entitled to a fair rate upon the fair value of its property devoted to the public service."

And also,—

> "But as the Commission is not bound by any one method in ascertaining the fair value of a utility's property, neither is this court. It is the privilege as well as the duty of both to consider all available methods, all relevant facts, so as to arrive at a correct solution, to find what is fair to all."

Upon consideration the use to which this physical property is put, the book cost, the historical cost estimate, the reproduction cost new, less depreciation, estimates, the decisions of our own Supreme Court of Appeals and those of the United States Supreme Court upon the subject of "present fair value," and after a careful and painstaking examination of the record, this Commission is of opinion that the physical property of this company had a present fair value, as of December 31st, 1923, of $25,000,000.00.

Supplementing the estimates of Mr. Uebelacker and other testimony for the purpose of bringing the evidence upon the question of value down to the nearest possible date, at the hearing held on December 31st, 1924, Mr. Hightower, the Gas Company's Assistant Treasurer, was recalled and among other things asked to show "the increase in capital expenditures during the year 1924, up to the 30th of November of that year." (Record p. 886.) In answer to this question Mr. Hightower filed a statement, which appears in the record as "Exhibit Hightower 4-A." The testimony of Mr. Hightower and this statement disclosed an increase in capital expenditures for said period of $2,000,676.57. But of this $1,334,037.10 is in "incomplete construction," using the language of Mr. Hightower,—leaving $666,639.47 in completed construc-

tion. The evidence is meagre, indeed scant and unenlightening. The Commission is not informed as to when any of the property represented by the total amount was put into service, and is not given the least idea as to when the "incomplete construction", as designated by its said witness, will be devoted to the public use. Whether this incompleted work will be finished soon and then promptly put into operation or whether, when completed, there may be a delay of months in giving the consumers the benefit of its use, we are not told. Indeed we are required to assume that the property represented by the figures $666,639.47 is in service, but this is as far as we can go—upon the record, the evidence not showing completed constructoin to the extent of said sum of $2,000,676.57; but, on the contrary, showing only $666,639.47 of completed construction; and there being no evidence whatever as to when the property represented by these amounts was or may be put into the service of the public, we allow only the said sum of $666,639.47 as a part of the rate base. As we are considering here the physical plant, there must be deducted from this last mentioned amount the sum of $18,181.75, the same representing cost of "acreage" and to be added to the value of the leaseholds. Thus we reach the sum of $648,457.72. From all which we must conclude and find that the present fair value of the physical property of the Gas Company is $25,648,457.72.

(b) Leaseholds and Natural Gas Territory.

The Gas Company holds in fee and by contract or lease 814,910.68 acres of oil and natural gas territory. Of this 41,969.47 acres is owned in fee, the remainder is held under written contracts, referred to in the testimony as "leases." Mr. R. E. Davis, a consulting engineer, witness for the Gas Company, the same gentleman who testified in Case No. 1251, in undertaking to arrive at the gas reserve or gas content of this large acreage, made a study of the territory for the company beginning three

years ago. He has brought his results down to a recent date and filed with his testimony an exhibit entitled "Report Showing General Geological Description of Natural Gas Properties, Classification of Acreage and Estimated Gas Reserves as of December 31, 1923," being designated herein "Davis Exhibit No. 1." Giving the purpose of this report, Mr. Davis says:

> "The purpose of the work has been (1) to assemble all available data pertinent to a study of the gas reserve of the property held by each company; (2) to determine said reserve so far as it is possible to do so in the present partially developed and partially tested condition of a large part of the territory; (3) to classify the undeveloped acreage now held as to its gas possibliities; and (4) to outline areas which have been proven unfavorable for production in well-known sands. In the determination of the *gas reserves of the various parts of the territory* distinction is made between reserves which are considered proven and reserves which are considered probable. The proven reserves are those contained in areas which have been thoroughly tested and which are now producing gas. The probable reserves are those believed to be available in territory partially tested by wells or in territory which appears to be especially favorable for gas because of the geological conditions and the relation to known productive areas."
>
> (Davis Ex. No. 1, p. 1.)

Among other things, Mr. Davis classifies this property as "operated" 68,900.72 acres, "unoperated" 746,009.96 acres, as of December 31, 1923. He reports gas wells "owned and operated" as of the same date 796. He classifies the said acreage further as follows: "Proven acreage"—drilled, 114,784 acres, undrilled 21,600 acres, total 136,384 acres; "probable acreage" 126,208 acres, total proven and probable acreage 262,592 acres; "possible and unfavorable acreage" 552,318.68; total acreage 814,910.68 acres. And by methods and theories fully developed and explained, Mr. Davis estimates "the total proven gas re-

serve as of December 31, 1923, * * * as 249.41 billion cubic feet of gas, and the total probable acreage as of the same date * * * as 414.6 billion cubic feet of gas, making a total of 663.7 billion cubic feet of proven and probable gas reserve," and he fixes this amount as the gas content of said acreage; the amount of gas that may be recovered therefrom. (Davis Ex. No. 1, p. 27.)

It is upon this reserve acreage or "gas reserve" as estimated by Mr. Davis and used synonymously by him with "gas content," "recoverable gas" and "gas in the ground" that the Gas Company asks this Commission to place a value, urging "the market value" as "the present fair value." The protestants resist the claim of the Gas Company to a value other than a leasehold value and insist that the fair value on such basis is "the book cost" as found by their witness Jirgal. (Jirgal Ex. No. 1.)

After having testified in relation to the "gas reserve" underlying the said territory, Mr. Davis upon being recalled, offered in evidence a report designated "Appraisal of Natural Gas Property, December 31, 1923," marked "Davis Exhibit No. Z," in which he estimates a value upon the "gas reserves" found by him in his said other report, "Davis Exhibit No. 1," here finding for the particular purpose of this study a gas reserve of 636.1 billion cubic feet in the territory shown in his "Exhibit No. 1," instead of the 663.7 billion cubic feet set down in said "Davis Exhibit No. 1," explaining, in this connection, that he believed "it would take more than eighteen years for the United Fuel Gas Company to exhaust the amount of gas that can be produced." Proceeding upon what he calls "the assumption that the property of the United Fuel Gas Company might be used in whatever way is most advantageous to the owner of the property," Mr. Davis, considering "the Pittsburgh market where there is a large potential demand for natural gas" in the manufacture of steel and for other purposes, (Record, p. 70) placed a value on this "gas reserve" and "the equipment now in place * * * which could be used in serving the Pittsburgh

market" of $52,181,738.17. Upon the gas reserve alone he fixes a value of $32,458,129.17.

Mr. Davis allows no gas content or reserve for that territory embraced within his classification "possible and unfavorable acreage," the same amounting to 552,318.68 acres out of the said total of 814,910.68 acres. (Davis Ex. 1, pp. 26-27.) And while the Gas Company claims a market value for said "gas reserve" it does not clearly appear just what the claim is as to the said remaining territory so classified by Mr. Davis as "possible and unfavorable." However, Mr. Uebelacker in his testimony and "U. Ex. No. 1" filed therewith, sets up a value of $3,293,754.00, giving this explanation,—

> "Valuation of unproven acreage—The total acreage in this classification is taken from Mr. Davis' report. The value at which it has been included herein is the average bonus or investment charge per acre incurred by the company in the year 1923 in the acquisition of the unproven acreage which it acquired during that year. This is taken as the measure of the value of this acreage as it represents bona fide transactions in the acquisition of such leaseholds."

From this it will be observed that Mr. Uebelacker has not endeavored through investigation of values in the neighborhood in which these leaseholds are located to make any estimate of market value of such leaseholds, and no other witnesses of the Gas Company have given this acreage any valuation. (U. Ex. No. 1, p. 45.) Taking as true the gas content or gas reserve of 663.7 billion cubic feet estimated by Mr. Davis, Mr. Uebelacker gives the "total value of proven and probable acreage" as $33,155,421.55. (U. Ex. No. 1, p. 46.) It is unnecessary here to go into detail as to Mr. Uebelacker's method of arriving at the value of this reserve, as such value is based entirely upon Mr. Davis' calculation, and of course for that reason must stand or fall upon the acceptance or rejection of Mr. Davis' figures.

As hereinbefore indicated, Mr. Davis testified in Case No. 1251. His testimony was not accorded any weight by the Commission, and the Supreme Court of Appeals, in referring to it, said:

> "There is some evidence in the record given by Mr. Ralph E. Davis, an engineer, tending to show the amount of gas that may be produced from the company's present wells and also the amount of gas that may be produced from what he calls its 'proven' territory. By his testimony the company seeks to estimate the gas now held by it, both in the 'operated' and in the 'unoperated' but 'proven' territory, aggregating from 100,000 to 150,000 acres. The witness excludes from his estimates some 650,000 acres held under lease which he calls 'wild-cat' territory. He testifies that about June 1, 1921, he started making his appraisal of these gas reserves—not in money value, but in quantity of gas. His discussion of the several factors used in determining the reserves is technical and we believe highly speculative. It is too lengthy to set out here in detail. He concludes that the reserve supply in the present wells on September 30, 1921, the date he testified, was 123 billion cubic feet; that on December 30, 1920, that reserve was 144 billion cubic feet and that between those dates the company had used up or produced about 22 billion cubic feet, or at the rate of about 30 billions per year. He estimated that there was a reserve in the 'unoperated' but 'proven' territory of about 228 billion cubic feet, which would require 780 new wells to produce. He makes a well location for about every 160 acres, but, as already stated, excludes from his estimates about 650,000 acres of 'wild-cat' territory held under lease by the company. These two estimated reserves at the time he testified aggregate about 351 billion cubic feet. He assumes the life of the present wells to be ten years and calculates from his estimate of 123 billions to be produced from them that it will require a sale price of 31.95 cents per thousand cubic feet to pay the operating costs and to retire the present going investment. Again, figuring the estimated cost of the 780 new wells necessary to produce the

> 228 billion cubic feet of reserves in the 'unoperated' but 'proven' territory, estimating that these and the present wells will require 20 years to exhaust both reserves, he estimates that it will require a sale price of 26.62 cents per thousand to pay the costs of the new wells, operating costs, and to retire the present and necessary future investment. He takes no account of profits and makes no estimate of present values. Of course, the appellants contend that little value can be attached to this character of testimony; and while his method of estimating gas reserves may be the best method known, his estimates are mere estimates and nothing more. We can not see how the Commission, upon such estimates, could fairly ascertain the value of the gas in the ground, at the mouth of the well, or at the city gates, as suggested in the opinion of the Commission. We consider such estimates too uncertain to form a basis for a valuation of the company's leaseholds; and in this respect we agree with the Commission. Therefore, under any view of the present record, the company has not shown by competent evidence that it is entitled to any appreciated values upon its leasehold property."

While Mr. Davis has gone into his subject much more exhaustively than he did in Case No. 1251, yet his theories and methods are not substantially or materially different. As quoted above "his estimates are mere estimates and nothing more." The fullness and elaboration with which such estimates are presented now does not change their character. Of this we are convinced. Nothing has been added by Mr. Davis which makes his recent estimates any more reliable, dependable or certain than those which have met with the disapproval of this Commission and the Supreme Court of Appeals.

In addition to the foregoing evidence the company offered the testimony of Mr. T. O. Sullivan, Mr. John B. Corrin, Mr. T. B. Gregory, Mr. John Davidson and Mr. A. G. Wamock. The value given by these witnesses upon the gas reserve or gas acreage ranges from $30,000,000

fixed by Mr. Gregory to $45,000,000 fixed by Mr. Wamock. Other witnesses were introduced who testified as to the sale price of gas per thousand cubic feet in the field, as well as upon the question of value, but the testimony of these witnesses is not insisted upon as a basis of value by the Gas Company, and we are of opinion that such testimony can not be accepted as a measure of the value of the leaseholds in this case. In many instances the prices for gas are covered by contracts with public utility companies whose rates are regulated by the Commission, and in other instances the price given is dependent upon the amount allowed by local industrial plants, such plants being governed wholly by local conditions. It is the same sort of evidence which was rejected by the Pennsylvania Commission and the Supreme Court of Pennsylvania in the City of Erie case, and by the Supreme Court of New York in the Pennsylvania Gas Company case.

City of Erie, et al. v. P. S. C. (Pa.), 123 Atl., 471;

People *Ex. Rel.* Pennsylvania Gas Co. v. P. S. C. (Supreme Court of New York, 3rd Dept., decided Jan. term, 1925).

A study of the testimony of Mr. Sullivan, Mr. Corrin, Mr. Gregory, Mr. Davidson and Mr. Wamock shows that these gentlemen in fixing their respective "market value" upon the "gas reserve" or "gas acreage" used as the basis or foundation of such "market value" the "gas reserve" or "gas content" or "recoverable gas" as estimated by Mr. Davis or by themselves; Mr. Davidson, however, being the only witness who gave a gas content of his own, and the price which they thought might be received for gas in Pittsburgh or elsewhere in Pennsylvania, Ohio, New York and Indiana. Mr. Sullivan in arriving at a value of $34,000,000 says that he had in mind a "market in Ohio and Pensylvania" for the gas. (Record 278.) Mr. Corrin in arriving at the sum of $35,000,000 testifies that his value is based partly on Mr. Davis' estimate of gas con-

tent (Record 275) and his opinion that the gas recovered from the territory of the Gas Company could be sold in Pittsburgh and other markets for a sum sufficient to give the gas acreage said value. (Record 270-275.) Mr. Gregory in arriving at a valuation "in excess of $30,000,000" bases the same upon what he believes the gas might be sold for per thousand cubic feet in Ohio, Pennsylvania, Indiana, New York and West Virginia. (Record 306.) Mr. Davidson in placing a valuation of $39,000,000 upon this "gas reserve" explains that he arrived at this figure by taking into consideration "the operated acreage and the acreage considered as tested acreage and reduced it to cubic feet of gas," and by placing a value on the "untested acreage" of $10.00 an acre; and further, that in ascertaining the value of the tested acreage he "figured out the probable quantity of gas there • • • considering it worth 4½ cents per thousand cubic feet," and that he arrived at this price per thousand cubic feet because he "figured the United Fuel Gas Company could sell it for that if it could deliver it, but he knows of no reserve gas in the ground selling at 4½ cents and never heard of any selling at such price;" and in further explanation of his figure of 4½ cents he adds: "I believe the United Fuel Gas Company could get that price for it over and above the cost to them. In other words, a cash basis for it to the Hope, the Carnegie or any of those companies." (Record 315-355.) Mr. Wamock testifies as to the "worth" of 300,000 acres, giving the sum of $45,000,000, explaining his basis for such figure to be "what we receive for gas" and "the demand for gas in the different fields." There is no explanation of just what he means or further development of his testimony. (Record 368-374.) Certain of these witnesses contemplate an industrial market in Pittsburgh and elsewhere only, others include an industrial and domestic market.

A careful analysis of this testimony fails to reveal a leasehold valuation or the value of "the leases" as such, all going to "gas reserve" or "gas content" or "gas acre-

age". It follows that this testimony is dependent upon two factors, or, shall we say happenings of contingencies? First, the presence of the gas in the ground as estimated by Mr. Davis and, so far as Mr. Davidson is concerned, as estimated by him. Second, the price which may be received for such gas per thousand cubic feet in Pittsburgh, Ohio, Pennsylvania and other states and points covered in the testimony. None of the witnesses upon whom the company relies to establish the value of its "gas reserve" shows anything more than a suppositious market for the gas which they estimate will be produced and extracted in the years to come from the territory of the company. We are asked to assume that this gas may be marketed in Pittsburgh for industrial purposes and in somewhat equally distant places for industrial and domestic purposes. There are no near markets in which it is shown that this gas could be used and marketed in the quantities in which it is produced, as there were in the City of Erie case, *supra*. Value being based upon what the gas may sell for in Pittsburgh or elsewhere, it follows that the testimony of these witnesses contemplate not only the production of all of said gas content from said territory, but its delivery at Pittsburgh or at such other points. Meredith, President, speaking for the Court, in Natural Gas Company of West Virginia v. Public Service Commission, *supra*, at page 568 says:

> "It is almost inconceivable that there could be an open market for these gas leaseholds, situated as they are, which would not be based upon the rate at which the utilities are selling gas to the public."

It is equally inconceivable here that there could be an open market for this "gas reserve" or "gas content" situated as it is which would not be based upon the rate at which utilities are selling gas to the public. Unless we are to assume, for the purpose of placing a valuation upon this gas reserve, that this Gas Company owns and operates a gas line to Pittsburgh and elsewhere through which

it may deliver this gas to such points, and it does not have any such line, then we must find from the record that, in order to get this gas to Pittsburgh and other points, it must be delivered to other public utility companies and transported to Pittsburgh and such other points by such other companies. Such of the gas of this company as may now reach Pittsburgh is carried there by the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company, being delivered to these companies by this Gas Company at Cedarville, and both of said companies being public service corporations and subject to the regulatory powers of this Commission. Such other gas of this company as reaches other markets is transported by companies subject to the jurisdiction of like commissions in Ohio, Pennsylvania, Indiana and New York. And, under the usual practice of companies of the character of this Gas Company, gas is sold to such other public utility companies for use outside of the State and within the State under private contract and at what is usually called "a wholesale rate." Suffice it to say that this Commission has power to fix rates for natural gas sold within the State, whether such gas be sold for domestic, industrial or wholesale purposes.

> Clarksburg Light & Heat Co. v. Public Service Commission, 84 W. Va. 638; P. U. R. 1920A, 639;
>
> Van Lear P. Shriver, et al. v. Manufacturers Light & Heat Co., (Pennsylvania Public Service Commission); P. U. R. 1921E, 411;
>
> Peoples Natural Gas Co. v. Public Service Commission of Pennsylvania, et al., 279 Pa. 252.

Public utilities control, produce and sell all but a negligible quantity of gas, and this gas can not be transported to any market relied upon in this record except by the permission of the State and under the regulation of the State. Now and then an independent producer, as is shown in the evidence, is able to contract on favor-

able terms with some industry nearby, which, as it is assured of a more continuous, exclusive and useable supply by reason of taking all the gas of such producer, may pay a higher rate than that allowed a public utility, but no such nearby market is shown here, and no condition independent of the rate of return or earnings of the Gas Company appears.

> "Evidence of the appreciated value of its leaseholds to be competent must not be based upon but must be independent of the rate of return or earnings."
>
> Natural Gas Co. of West Virginia v. Public Service Commission, *supra*.

In the last mentioned case the witness for the company, Mr. Wyer, had fixed certain prices per acre "on the basis of considering such leaseholds for sale in the open market." Passing upon Mr. Wyer's testimony, the Court said (page 567):

> "He does not define or point out any 'open market' for them nor state whether the purchaser in this 'open market' was one engaged in selling gas to the public or one buying it from a public utility company."

The purchaser here may be the Hope Natural Gas Company, the Pittsburgh & West Virginia Gas Company, the Manufacturers Light & Heat Company and other public service corporations named by Mr. Davidson and Mr. Gregory in their testimony, being companies engaged in selling gas to the public, or may be industrial concerns in Pittsburgh and elsewhere who use gas or rates approved by the Public Service Commissions of Pennsylvania and said other states, and who must secure their gas from this Gas Company through companies subject to the jurisdiction of this Commission. As indicated already, these witnesses placed their estimated value upon what they believe the gas would bring if it could be marketed at Pittsburgh and other points. It is decidedly unfair to ask this Com-

mission to accept the remote markets offered and to fix a valuation upon this gas property, not as it is but as it might be. This contention of the Gas Company is an effort on its part to do indirectly what it can not do directly. It can not sustain a valuation based upon the price per thousand cubic feet for natural gas; so that it offers witnesses who place a value upon the "gas reserve" or "gas acreage" as a whole. But these witnesses arrive at their value by basing their estimate on the price which they think could be obtained for this gas in Pittsburgh and other places. Suffice it to say that the two cases upon which the Gas Company relies especially condemn this method. The Supreme Court of New York, (Third Department) citing with approval the opinion of the Pensylvania Supreme Court in City of Erie, et al. v. Public Service Commission, *supra*, says:

> "The proofs show that these gas lands have a market value as lands as a whole per acre and are not subject to the criticism that they were opinions as to value based upon the sale price per cubic foot of gas."
>
> People *Ex. Rel.* Pennsylvania Gas Co. v. Public Service Commission of New York, et al. (Decided Jan. term, 1925, not yet reported).

To the same effect, the Pennsylvania Supreme Court in said City of Erie case had declared:

> "The value of the land is not the selling price of a cubic foot of gas as applied to the supposed quantity in a given field; its value is fixed as a whole or at so much an acre."

As these witnesses have testified exclusively as to "gas reserve", "gas content", and "gas acreage", the question suggests itself: Is this "gas reserve" or "gas content" or "gas acreage", owned by the Gas Company? For certainly we can not value a property which is not owned by the utility seeking a valuation thereon. As heretofore stated the Gas Company holds in fee and under lease

814,910.68 acres of oil and natural gas territory, 41,969.47 acres being owned in fee and the remainder being held under written contract or lease. What is this written contract or lease? Such contracts or leases are not introduced in evidence; and we are not given the benefit of any testimony explaining or describing the character of such paper or holdings. The only evidence bearing upon the subject is the statement found in "Davis Exhibit No. 1", wherein Mr. Davis says, "This report covers an investigation of the fee and leasehold property owned and controlled by the United Fuel Gas Company, as of December 31, 1924, * * * the leasehold property is controlled by virtue of the terms of the usual lease contract" (pp. 1-2) and Mr. Jay, an employee of the Company, says that on said last mentioned date the Gas Company "had leases or deeds in fee for the property represented in Mr. Davis' report." (Record, page 416.) Mr. Davis says, "the usual lease contract." But what does he mean by the "usual lease contract"? In a general way we have notice and knowledge of oil and gas leases, their usual terms and obligations; but we also have notice and knowledge that in many instances the lease or contract used by one gas company is different in some respects than that lease or contract used by another company. We are not given the benefit even of the form of lease or contract in use by this gas company. Not only is there no such paper in the record but there is no testimony whatever informing us whether or not all of the acreage is held under similar leases, what difference there may be, if any, in some of the leases, and what are the usual as well as the unusual stipulations in such leases in regard to terms, rental or royalties, free gas, etc. Also, we have taken notice of the fact that some leases may have been obtained by the Gas Company by way of assignment from independent producers or persons engaged independently in the taking up of leases, and that such leases frequently contain provisions that the leases taken by the Company do not con-

tain; that sometimes instead of a royalty being paid for a gas well, an interest in the gas is allowed to the lessor.

In view of the testimony upon the subject of value arrived at through the "gas reserve" or "gas in the ground" and the sum which might be received per thousand cubic feet for such gas at Pittsburgh or elsewhere, it becomes pertinent to inquire, is it this "gas reserve" or "gas content" or "gas in the ground" that is owned by the Gas Company, or is it the lease or the leasehold estate thereby created? The record shows that the Company holds certain acreage in fee and the balance under lease, which acreage it designates its "gas territory". Going outside the record and drawing upon our information, we understand an oil and gas lease to be a paper whereby the owner of the land and the oil and gas thereunder, leases and lets unto the Gas Company or some individual such land for the purpose of operating thereon for oil and gas; such lease being for a term of years "and as long thereafter as oil and gas is produced," the same being made upon a fixed cash consideration sometimes called a bonus, and in the further consideration of the payment, at certain stated periods of rental for the leased premises while the same remains unoperated, and for the payment of a certain stated royalty should either oil or gas be found. We understand that there are usually many conditions embraced in such leases as well as certain obligations assumed by the lessee; such as the right of free gas or a certain royalty in the gas to the lessor, the drilling of a certain number of wells by the lessee, etc. Here we are concerned with the gas. In the fixing of the value the witnesses make no separation of the gas acreage owned in fee and that held under lease and as the fee acreage is small we will deal with the lease or leasehold acreage only. Unless title to the gas has passed to the Gas Company under "the usual lease," it has no title to such gas and this Commission can not place a value upon the gas or gas acreage as such. The record shows that the Gas Company had "leases or deeds in fee" for its gas pro-

ducing territory as of December 31, 1923, which leases were "alive at that time." (Record, page 416.) Such leases or paper pass no title in the gas to the lessee. The title to the gas remains in the lessor and continues as his property until it is extracted, when title vests in the lessee. The only right given to the Gas Company under its lease is the right to explore for oil and gas and to produce them when found. Always has this been the law in West Virginia, a clear expression of which is:

> "The ordinary oil and gas lease giving the lessee for a term of years the right to mine and operate for oil and gas is not a sale of the oil and gas in place and the lessee has no vested interest therein until it is discovered; but when found the right to produce becomes a vested right and when extracted the title vests in the lessee, and the consideration for royalty paid for the privilege of search and production is returned for the leased premises."
>
> Headley v. Hoopengarner, 60 W. Va., 626.

These leases are property, chattels real.

> Barnes W. Va. Code, Chap. 29, Sec. 61.
> Harvey Coal & Coke Co. v. Dillon, Tax Commissioner, 59 W. Va. 605.

It is well to note that it is the leaseholds which are returned by this gas company and all like companies to the "Board of Public Works" for assessment by that body, and that the gas is assessed to the land owner. A strong and interesting discussion of this question, leases and leaseholds, by the learned and distinguished Judge Henry Brannon, then president of our Supreme Court of Appeals, will be found in the opinion written by him in Harvey Coal and Coke Company v. Dillon, Tax Commissioner, *supra*.

These leases being property, and in this case the property owned by the Gas Company rather than the "gas content" or "gas in the ground", they have a value as such. It is a matter within our knowledge and of which we may

take notice that leases and leaseholds are subject to sale and are offered for sale in the market and, therefore, have a market value as such; but in order to place a value upon these leases or leaseholds there is much information, other than the gas content and a market for such gas content, with which the witness must be familiar and which must be brought to the attention of the Commission. Many questions suggest themselves: What acreage is contained within each of the leaseholds; what is the term; what drilling has been had thereunder; what are the carrying charges, the rental and royalty; what part of the property embraced within a lease may be within what Mr. Davis calls "proven territory" and what part thereof may be "probable territory"; and, if the lease be of sufficient acreage, what parts may be within possible or unfavorable territory? If a lease contain an unusually large acreage, what is the stipulation, if any, requiring a certain number of wells to be drilled, and, in the absence of such drilling, how much of said acreage would be forfeited? What is the "free gas provision?" If a money royalty is not paid, is one-fourth or some other amount of the gas produced allowed as royalty?

What are the conditions and requirements with reference to surrender, abandonment, or forfeiture? Full knowledge of these matters would be demanded by any purchaser. It is from these matters that a purchaser may determine an existence or non-existence of value. And as it is upon these very same matters that the value of the leases may depend, the Commission should be fully informed. Such leases being subject to abandonment and forfeiture, the gas content under such of them as may be surrendered, abandoned, or forfeited, would be lost, and under the circumstances, the gas would never become the property of the gas company and used by its consumers. Evidence of the character offered here, based upon the "gas reserve" or "gas content" of a certain part of the acreage of this gas company without any regard whatever to the leaseholds affected and requiring this

Commission to assume that there will be no violation of the conditions of the leasehold and that therefore the total amount of gas content will be produced for the benefit of the gas consumers can not be received by us upon the value of leaseholds. As stated by Commissioner Lewis in the opinion written by him in Case No. 1251 (Bulletin No. 82):

> "If gas is discovered it becomes the property of the company providing the company complies with the terms of the lease in respect to the payment of rentals and royalties."

Mr. Lewis is right in the expression of the contingency upon which the gas after discovery becomes and remains the property of the Gas Company, and, as just suggested, whether or not the gas becomes and remains the property of the Company depends not only upon the gas company's compliance with the terms of the lease in respect to the matters mentioned by Mr. Lewis, but also in other respects, some of which have just been mentioned, but as to the nature of all which we are not advised except in a general way, for the reason that the leases are not before us and were not before any of the witnesses who testified in this case; none of the witnesses showing any familiarity with any of the leases and none of them testifying in relation thereto.

But it may be suggested, can not "the market value" of the leaseholds be arrived at by the Commission from the evidence covering the "gas reserve" and the "Gas acreage"? For reasons already stated, we can not find from the evidence any market value for these leaseholds. It is the lease or leasehold; that thing which the company owns, to which it has title, upon which we must fix a value, and not that thing in the ground, the gas, which is the property of the land owner. That is, fix a "money value", not a value "in quantity of gas", as was significantly stated by Meredith, president, in said opinion in City of Charleston v. Public Service Commission, *supra*.

page 107. As was said in Dillon v. Bare & Carter, 60 W. Va. 483-495, "The inquiry must be, what will the leasehold sell for, not what will the leasehold and the property used with it, or on which it is held, sell for."

Reliance is had by the Gas Company upon two recent decisions involving the valuation of gas territory. I refer to the City of Erie v. Public Service Commission, et al., and People, *ex rel.* Pennsylvania Gas Company v. Public Service Commission, *supra*. Apparently, in a consideration of this case the distinction in facts has not been observed. In both cases the gas company was the owner of the gas in fee and no leaseholds or incorporeal rights were involved. The Company's title to its gas producing properties were under deeds absolute to the gas in the ground. The ownership of the gas was vested in the company upon the passing of the deed. There were no rentals or royalties to be paid and no conditions or obligations to be performed, and the gas is taxed separately to the company on the same ownership deeds. Recognizing a different situation in other States, Mr. W. Pitt Gifford, in a brief filed by himself and others in behalf of the Pennsylvania Gas Company, upon the appeal of said City of Erie case to the Supreme Court of Pennsylvania, at page 36, says:

> "Whatever the law may be elsewhere the respondent's ownership of the gas in land under the law of Pennsylvania is *land* just as much as a farm or a lot with a brick block on it is land and must be valued accordingly. We are not here concerned with the law of other jurisdictions."

Hamilton v. Foster, 272 Pa. St., 95-102;
Rockwell v. Warren Co., 228 Pa. St., 430;
Citizens Gas Co. v. Whitney, 232 Pa. St., 592;
Prager's Estate, 74 Pa. Supreme Court, 592.

In the Erie case, cited, the ownership of the gas under the land is in the company; here such ownership is in the owner of the land. There the gas in the ground is taxed according to its value to the gas company; here it is taxed to the land owner. There, there are no conditions and ob-

ligations to be kept and performed by the company upon which its right to take the gas depends; here, there are many conditions to be performed, including the furnishing of "free gas", the payment of royalty or rental, the proper development of the land, and in addition the lease is subject to forfeiture, abandonment, or surrender.

We reiterate that we recognize the rule laid down in Wilcox v. Consolidated Gas Co., 212 U. S. 19, Bluefield Water Works, etc., v. P. S. C. W. Va., 262 U. S. 679, and other cases hereinbefore cited, to the effect that if the property which enters into the consideration of rates has increased in value since it was acquired, the gas company is entitled to the benefit of such increase; this same rule being restated, approved, and applied to leaseholds in the City of Charleston v. Public Service Commission, *supra*, wherein the Court says, in point 2 of the syllabus:

> "Consequently it is entitled to have included in its present fair value as a rate base for rate making purposes appreciation in the value of its gas leaseholds over investment cost."

But our position is that it is the leaseholds upon which a value must be placed and that such value can not be ascertained through a showing of gas content and a market price for such gas content as attempted here and without knowledge of the terms and conditions of said leaseholds; and further, that it is the market value of the leaseholds as such with which we are concerned. It is recorded in Natural Gas Co. of West Virginia v. Public Service Commission, *supra*, in point 2 of the syllabus:

> "Where in a rate making case a natural gas utility company seeks to establish a rate based upon the reproduction cost new less depreciation value of its property and as a component part thereof seeks to have included therein appreciation of the value of its leaseholds over investment cost, the burden of showing such appreciation is upon the utility."

This burden the Gas Company has not discharged. It

is apparent that if the Gas Company is entitled to the appreciated value of its leaseholds, and we recognize that if an appreciated value can be shown it must be allowed, that value must be upon the property which the Gas Company owns, to which it has title and upon which it pays taxes. That is, the leaseholds, and not upon the gas reserve, gas content, or gas acreage determined from an estimate of gas reserve, title to which may or may not vest in the Gas Company during the life of the field. These leaseholds have a value. The same may be determined, perhaps, upon a reproduction basis or upon a market value basis as they are bought and sold in the market; and there must be a method of establishing such market value, if any, and such reproduction value. It is the right "to mine and operate" for gas and the *right* to produce the same when found which is owned by the Gas Company; it is that right, represented here by said leaseholds, upon which we must place a value.

No appreciation in value of leaseholds having been shown, the only other evidence in the case from which we may determine the fair value of such leaseholds is the book cost. When this Gas Company was reorganized in 1909 it acquired certain properties from the United States Natural Gas Company and the Hope Natural Gas Company. "Jirgal Exhibit No. 3, page 4", shows that these "acquisitions were recorded on the books at values which apparently had no reference to any cash consideration involved." The acreage taken over by the Gas Company from the old company was entered upon the books with the acreage secured from the United States Natural Gas Company and the Hope Natural Gas Company in the same account. From "Jirgal Exhibit No. 4" we find "this acreage was first given a value of $5.00 per acre at about the time of acquisition." The total acreage there referred to was 1,056,443.58 acres and at $5.00 per acre would amount to $5,282,217.90. In "Jirgal No. 3", page 4, Mr. Jirgal says, "an appraisal was apparently made of the physical property acquired aside from the acreage and the

balance of the book value placed on the total property was considered as applying to such acreage." It was found then that the amount of $5,282,217.90 must be increased by the amount of $1,941,321.06 in order to make up the total value of the property as shown by the books. According to "Jirgal Exhibit No. 3", page 5, this revaluation of leaseholds was made as follows:

> "In 1911 the officers of the company placed a value on each leasehold or other property rights ranging from $1.00 to $50.00 per acre, the aggregate of which values exactly absorbed the valuation placed upon the properties acquired; thereby making out of such leasehold account "a wash account".

And further Mr. Jirgal says in the same exhibit:

> "In all 1,056,443.38 acres were valued in this manner and the total valuation assigned was $7,233,538.96 * * * for the purpose of this valuation, all of the acreage which had already been charged off to expense on account of abandonments, amounting to about 500,000 acres, was replaced on the books and charged off again at the assigned valuation of approximately $1.00 per acre."

From this it follows that the original acreage of this company was valued at said sum of $7,233,538.96 regardless of the actual cost thereof or investment therein. Since the fixing of said book value at said last mentioned amount and up to December 31, 1923, the Gas Company through "gas property purchased" and "leases acquired" has obtained 1,100,887.09 acres of gas territory. During this same period it has sold and lost through surrender and abandonment 1,342,419.99, an amount slightly in excess of the acreage acquired, leaving within its control in December 31, 1923, the said 814,910.68 acres, to which reference has been made. The acreage acquired within said period cost $1,252,515.30, the purchased being acquired at the average of $7.14 per acre and the leases at 74 cents per acre. The acreage sold and abandoned was charged

off the books at $1,855,087.67, an average price of $1.38 per acre. In this book account the gas company has included royalties since 1911 of $340,543.41, the same representing renewal payments for leases for second and third renewals. It has also included in this account "oil department acreage" amounting to $238,589.59, which, when deducted, leaves on the gas department books as the book cost of its leaseholds, the sum of $6,732,920.28. From this must be deducted other oil department acreage amounting to $389,590.61, giving a book cost as of December 31, 1923, of $6,343,329.67. (Jirgal Exhibit No. 1 and No. 6.) In order to bring this book cost down to the nearest possible date, we must add to this sum the acreage obtained within the period from December 31, 1923, to November 30, 1924. That is $18,131.75, (Hightower No. 4-a) making a total book cost of $6,361,511.42. In this connection it should be added that since the said reorganization in 1909, to December 31, 1923, the carrying charges of this gas territory, that is, the leasehold expense, rentals and royalties, have been $8,817,909.96; (Jirgal Exhibit No. 3, page 11,) and Jirgal Exhibit No. 6 and No. 9). It is these rental and royalty payments, the rentals amounting to $6,458,091.66 and the royalties to $1,691,455.63, which have kept alive the leases of the Gas Company, thereby perpetuating the gas company's right to drill for gas and preserving its right to produce and extract gas. While it would seem from Mr. Jirgal's testimony and exhibits filed therewith that the "appraised" book cost of the leaseholds is questionable and that such book cost is approximately $1,813,763.40, and that there has been an appreciation placed on the value of such leaseholds through the said appraisal made in 1911, yet we feel that, upon the whole record, we must recognize such appreciation in value, as made upon said appraisal, and the book cost of the leaseholds and natural gas rights of the Gas Company as shown upon the books, which is $6,361,511.42; and this book cost being the only evidence of the value of such leaseholds, we must conclude that

the present fair value of such leaseholds is the said sum of $6,361,511.42.

(c) WORKING CAPITAL.

THE PARTIES to this proceeding have agreed upon $990,000 as an allowance for working capital. The Commission believes such sum to be necessary and sufficient and, accordingly, this amount is allowed.

(d) GOING VALUE.

That there is this element of value, that is a going value, attaching to a plant like that of the United Fuel Gas Company, which must be considered in arriving at the fair value of the property of such company, there can be no doubt. Such value is recognized by the protestants; the only difference in opinion being the amount which should be fixed for such value, but, as stated by Mr. Uebelacker, such value "cannot be arithmetically computed"; and for this reason Mr. Uebelacker did not include any sum for going value in his valuation of physical property. (U. Ex. No. 1, pp. 12-13). He adds, however, that "the fact that no amount has been included for going concern value in particular, does not imply that such value is non-existent"; and we agree, as indicated above, that this plant does have a going value. Mr. Hagenah recognizes that such value attaches, using to sustain him, the decisions of a number of commissions and a few courts. He takes an arbitrary figure of ten per cent, approximately, of his estimate of the reproduction cost new, less depreciation, as representing the going value, being the sum of $3,080,000.00. Mr. Uebelacker has given us two estimates, one of from three to three and one-half million dollars, and another of $8,500,000, approximately. (Record pp. 94-100-151.) Of this we are satisfied, that the first opinion of Mr. Uebelacker is more nearly correct than the last; that the sum of $8,500,000 is too large. Giving consideration to the factors and elements of going concern value enumerated by Mr. Uebelacker in his testimony (Record

pp. 94-100), and likewise taking into consideration the gas territory owned by the company, and particularly its favorable location and the character of acreage as detailed in the testimony of Mr. Corrin and Mr. Sullivan and others, the protection afforded the gas producing acreage by other acreage, the favorable contracts held by the Company, the territory as defined by wells which have been drilled, including dry hole, the testimony of Mr. Hagenah upon the subject and the estimates of value made by Mr. Uebelacker and Mr. Hagenah, we are of opinion that the plant of this Gas Company has a going value of $3,000,000.00.

PRESENT FAIR VALUE.

Totalizing the values at which we have arrived, as set forth in the preceding paragraph, we get the sum of $35,999,969.14, which we determine and fix as the present fair value of all the property of the Gas Company; the rate base in this proceeding.

Upon this amount the Gas Company is entitled to earn operating expenses and taxes, an amount sufficient to take care of deterioration or depreciation, a sufficient sum to amortize or retire over the remaining period of its life the unamortized or unretired portion of its property, and a fair return.

II.

AMORTIZATION, DEPRECIATION AND DEPLETION.

These terms as used by the Gas Company in this proceeding are defined by Mr. Uebelacker as follows:

> "The term 'amortization' applies to an allowance for the eventual retirement of the present value of gas reserves and the present value of operating plant in West Virginia upon the exhaustion of the supply of natural gas which is essential for its operation.

"The term 'depreciation', as used herein, and, in the amount which has been assigned to it, means simply an allowance for the equalizing of the annual expenditures for keeping the plant in condition to perform 100% service; and, accruals to a depreciation fund calculated in this way are in no sense intended for the retirement of the value of the investment. They are simply an equalization of the annual expenditures for maintenance and replacements, and any fund accruing under the allowance which we have made, would accrue perhaps for two or three years and then, as any heavy expenditures for maintenance were made by the Company, become entirely exhausted, and then might accrue for two or three years, and, on the recurrence of a period of heavy expenditures for maintenance, again be entirely exhausted. It is in no sense for the purpose of returning the value of the property used in the service at the termination of such use.

"The term 'depletion' as used here, we will say, applies to the retirement of the cost of well drilling equipment, less salvage, and plus the cost of recovery of such portion of the well equipment as can be recovered, the cost of plugging wells, and other incidental expenses of abandonment."

(a) AMORTIZATION.

With the exception of the manner of the application of "the amortization rule" we agree with the definition of that term as given by Mr. Uebelacker. Where he uses the language "the present value of gas reserves" in this case, we would use "the present value of leaseholds;" such present value, by reason of that being the only proper evidence in this case, being the book cost as hereinbefore fixed, so that it follows that the "amortization rate" as used herein is an allowance for the eventual retirement of the present value of leaseholds and natural gas rights and the present value of the operating plant or physical property of the Gas Company upon the exhaustion of the supply of natural gas which is essential to the operation of the physical plant. Thus we do not separate for amor-

tization purposes what Mr. Uebelacker calls "the gas reserve" and what we call "Leaseholds" from the physical property. This separation was suggested in Case No. 1251 but held unnecessary in Charleston v. Public Service Commission, *supra*, and the records of the Company have been so kept that no separation could be made at this time, for the reason that we can not determine from such records the amount of earnings or profits or receipts from gas sales which have been devoted to the retirement of the value of the gas reserve or leaseholds as distinguished from the retirement of the value of the physical plant. Naturally the question arises, over what period shall this retirement or amortization be spread? Shall it be spread over the life of this property beginning with the year 1909, or shall it be spread over the remaining years of the life of the property, or shall we only take into account in arriving at a proper rate the years in which a rate base was fixed by this Commission? It is my opinion that the entire life of the property should be taken and not the remaining life or said last mentioned period of years. This position is sustained in Clarksburg Light & Heat Co. v. Public Service Commission, *supra*. Ritz, Judge, among other things, declaring:

> "It will not do to say that this Company could by continued active operation for the first half of its life exhaust more than one-half of its gas supply and declare the whole of it in idvidends as profits on its investment and then begin the amortization of the investment after its property had been thus depleted."

And in Fuhurmann v. Iroquois Natural Gas Co., P. U. R. 1919D, page 76, the New York Public Service Commission says:

> "The amortization charge against the consumers of natural gas company should not be confined to the period following a valuation in a rate proceeding, but should be spread over the entire life of the property, both past and future."

The financial history of this Company discloses that from the period of its reorganization in 1909 to 1923, its earnings have been $46,087,749.11, after deducting operating expenses and taxes; that within the same period the adjusted net earnings have been $53,340,656.21, the adjustment in net earnings resulting from an adjustment of the sales of gas by this Gas Company to its parent companies at a rate equal to the average rate at which such gas is sold to its other wholesale consumers. These adjustments, however, do not begin until the year 1918. Allowing during this same period 1½ per cent on the book investment to take care of deterioration or depreciation in the property, amounting to $1,233,590.75, more than the amount actually used for such deterioration and depreciation, and allowing a fair return of 8 per cent on the said book investment for the years in which no rate base had been fixed by this Commission, and allowing said 8 per cent upon said rate base in the years in which the same was fixed, there was left for retirement or amortization purposes on December 31, 1923, without the adjusted sales, $15,415,420.36 and, with such adjusted sales, $22,668,327.84. Thus, under the principle announced in said Clarksburg Light & Heat Co. v. Public Service Commission case, *supra*, and said Fuhrmann v. Iroquois Natural Gas Company, *supra*, this company has amortized to said last mentioned date $22,668,327.84 of its plant. But it is the judgment of the Commission that instead of spreading this amortization and the adjusted sales over the life of the property, the retirement or amortization should be restricted to the period from 1916 to the present time. During these years the Commission treated amortization and depreciation together. The rate allowed by the Commission for amortization and depreciation purposes for these years, and the rate base upon which the same was applied, are set out in the cases of this Gas Company before the Commission hereinbefore cited. These allowances for depreciation and amortization are

1916-1918, inclusive, 6 per cent;
1919-1922, inclusive, 8.6 per cent, and
1923 8 per cent, the rate of return throughout said period being 8 per cent. During this period the adjusted net earnings were $45,125,363.87; but applying the said amortization and depreciation percentages during said period there was earned for depreciation and amortization purposes $16,788,210.12. After deducting this last mentioned amount from said adjusted net earnings, there was left to the Company $28,337,153.75, thereby giving to the Company a rate of return considerably in excess of 8 per cent.

As will be shown under the subject of "Depreciation", at the rate of 1-½% upon said book investment, this Gas Company earned during these years, for the purpose of taking care of deterioration and depreciation in its plant, the sum of $2,759,473.09, more than enough to take care of the actual and used deterioration and depreciation. Deducting this sum from said amortization and depreciation earnings and thereby separating the same, we have $14,028,737.03; the same being the amount of property amortized during said period.

At this point the questions which present themselves are:

FIRST: Shall this said amortization amount be deducted from the book cost of the property, or shall it be taken from the fair value of such property?

SECOND: Within what period of years may the unamortized book cost or fair value of the property be amortized?

Answering the first question, it is the judgment of the Commission that it is the fair value of the property which is to be amortized; for which purpose we must fix a rate. It is with reluctance that the writer takes this view; but as long as the present fair value of a property is held to be the proper rate base, and the amount upon which a utility is entitled to a fair return, rather than the amount

prudently invested, we must amortize that present fair value rather than such book investment. It is the present fair value, as held in the decisions of the United States Supreme Court and our own Supreme Court of Appeals in cases hereinbefore cited, upon which the utility is entitled to earn a fair return; this value being regarded as actual money devoted to the use of the public by the utility. Therefore, it is that actual money, represented here by property, which has appreciated in value, which the Gas Company is entitled to have returned to it through amortization. We must be consistent; if we allow the fair value for one purpose we must allow it for the other. As we view it this is the holding of the courts; we can not be governed by our individual views.

Clarksburg Light & Heat Co. v. Public Service Commission, *supra*;

Michigan Public Utilities Commission v. Michigan State Telephone Co., 200 N. W. 749.

But before arriving at that present fair value for amortization purposes, from which to deduct the amount already earned for amortization, we must take from the present fair value of the property as found by us the $200,000 allowed as working capital. This for the reason that this working capital is money put into the treasury or cash account of the Gas Company for the purpose of taking care of current operating expenses, which sum or any part thereof may be withdrawn in the discretion and judgment of the managing officers of the Company. Subtracting this last mentioned amount from said rate base, leaves $35,069,969.14. From this we take the amount of property amortized as of December 31, 1923; that is, the said sum of $14,928,737.03, leaving to be amortized during the remainder of the life of the property the sum of $20,981,232.11.

In answer to the second question, we find that the life of the property from said December 31, 1923, is not less than eighteen years. This is the opinion of Mr. Wallace,

Vice President and General Manager of the Company. (Record, Case No. 1251, 723; Record, Case No. 1516, pp. 808-809.) Mr. Davis and Mr. Uebelacker express the same opinion. (Record Case No. 1251, pp. 126-129; Record, Case No. 1516, p. 480; "Uebelacker Exhibit "A", pp. 17-21.)

Another matter which should be determined is the salvage value of the Gas Company's property at the end of said period of eighteen years, or at the end of its use; but upon the present record such value can not be determined. The time is too far distant for the Commission to say whether this same property may be used for artificial gas purposes or for any particular purpose. It may have a junk value only. Of this we are certain, that is, that under the amount of money heretofore used for depreciation and operating expenses, and the allowance here made for such purpose, this property can be maintained in its present excellent condition. Of course this is to the advantage of the Gas Company, but upon a later hearing had for the purpose of making such adjustments as may be necessary in the amortization and the depreciation rate, this Commission will make a special investigation of the value which may attach to the plant or any part thereof at the end of its service, and take such value into consideration in arriving at a proper amortization rate.

This record shows that the Gas Company has reached the peak of its development and operation. This being true, for the purpose of maintaining production to the present extent at least, the Commission will include in its allowance for amortization an amount sufficient to amortize the future additions to the property; the present allowance being based upon the probable additions for the next five years.

Agreeable to the foregoing, the Commission finds 4.15 per cent as an amount sufficient and necessary for the amortization of the unamortized portion of the present fair value of the property. As we have seen, during the period from 1916 to December 31, 1923, this Company

earned more than the fair return and amortization and depreciation allowances made by the Commission in the cases cited. For this excess, the writer deferring to the majority of the Commission, the Gas Company has not been required to account, and no part of the excess, has been applied to the amortization of the property. In the future and until all of the property has been amortized, but to that time only, any earnings of this Gas Company in excess of the allowances herein specifically made shall be applied to the amortization of its property.

III.

DEPRECIATION AND DEPLETION.

Mr. Uebelacker's definitions of depreciation and depletion have been quoted. It is apparent that the term "depreciation" is not given the same meaning by him in this case as that given to it generally; the reason therefor being that the gas company here is a limited life utility and not a perpetual utility and that the cost of the property consumed in the service is given back through amortization, so that depreciation is, as stated by Mr. Uebelacker, "simply an allowance for the equalizing of the annual expenditures for keeping the plant in condition to perform 100 per cent service;" being what may be termed an extraordinary maintenance charge. It has no relation to the rate base but only to book cost of the property for the purpose of maintaining which it is allowed, so that the rate at which we arrive is a rate fixed upon the depreciable property only, but for the purpose of convenience applied to the rate base. This is in accord with the former holdings of this Commission as well as recent cases.

> "Depreciation reserve should be applied to the investment rather than the present value figure."
>
> Georgia Railway & Power Co., et al., v. Railroad Commission of Georgia, et al. (U. S. Dist. Court); P. U. R. 1925A, 546.
>
> *Re:* Kansas City Gas Co. (Mo. P. S. C.); P. U. R. 1925A, 653.

Under this rule, which is agreeable to the method of the Gas Company's engineer, Mr. Uebelacker, except as to the value of the property upon which the rate is to be applied, should an expenditure for depreciation purposes be necessary and the cost of the unit used for replacement be more than the book cost, such excess cost is added to the rate base or present value of the property, so that there is a charge upon the books equaling the original cost of the unit which is being replaced and the excess cost goes to capital and upon this excess cost the company earns the eight per cent here allowed and is permitted to amortize the same, together with the rest of its property. We find the book cost of the depreciable and undepreciable property to be $26,288,911.83, as of December 31, 1923. This property is now in approximately 83.5 per cent condition. In fact, for all operating purposes, Mr. Uebelacker says it is in "100 per cent condition". The property being in such excellent condition indicates that it has been maintained in a high state of efficiency since the beginning of operations in 1909, a period of fourteen and one-half years. We encourage such maintenance by allowing operating expenses as asked by the company. Having used the observed depreciation method in arriving at the present condition of the property, we see no reason for departing from such method and accepting the theoretical, speculative and arbitrary assumptions and calculations concerning the future needs of this company for depreciation purposes. (Pacific Gas & Electric Co. v. City of San Francisco (U. S.) P. U. R. 1924D, 817.)

The record shows (Jirgal Exhibit No. 6, p. 3, col. 6) that this company has actually used through the years stated for the purpose of depreciation, $2,950,222.32. Apparently it has met with no serious emergencies during this long life and in view of the expenditures for additions to plant made in the past year, and through recent years, of approximately $2,000,000 per year, and the liberal use of operating expenses, we are justified in assuming that no serious emergencies will be met in the future.

Certainly the record sustains no foundation for any large sum to meet emergencies and it is with the record we are concerned. But, although in the past no large reserve has been needed to take care of emergencies and unforeseen contingencies, yet, realizing that both the Gas Company and the rate payer should be protected and knowing that it is possible that an emergency may arise, we are of opinion that a small depreciation reserve should be maintained. As the Company has not separated its fund for depreciation purposes and amortization purposes, we can not determine from its records how much of the depreciation reserve upon its books represents amortization and how much depreciation. Therefore, to arrive at a proper depreciation reserve we have taken one and one-half per cent of the book cost and applied this per cent to each of the years 1916-1923, inclusive. If the company had done this it would have accrued over this period down to December 31, 1923, $2,759,473.09. Subtracting the used depreciation over this same period, that is, $2,035,156.82, from said reserve so realized, that is, $2,759,473.09, gives $724,316.27 as a depreciation reserve on hand January 1, 1924, to meet emergencies or contingencies, or, using the thought of Mr. Uebelacker, "for the purpose of equalizing the annual expenditures, for maintenance and replacements."

In the past fourteen and one-half years the Company used an average of $203,463.61 per year. The percentage which we allow, being 1.12 per cent upon the rate base, will realize approximately $404,333 per year. Such of this amount as is not actually used in any year will be added, of course, to the reserve, and should any year require an expenditure of more than said amount, such excess must come from said reserve. In this we foresee the equalization of which Mr. Uebelacker speaks.

We emphasize the difference between a utility of this character and a perpetual utility. In the perpetual utilities high depreciation reserves are frequently urged and sometimes a small reserve justified, as there is no amorti-

zation of the property. This property being amortized, the Gas Company and the investors get the property back through amortization and not through depreciation. Not only would it be unnecessary but it would be an unjust and unfair burden to the rate payers to create here both a depreciation reserve and an amortization reserve, and, as we have indicated, Mr. Uebelacker does not advocate such former reserve, stating, "It is in no sense for the purpose of returning to the owners of the propery the value of the property used in the service at the termination of such use." It being in no sense a return to the Gas Company of the value of its property, there is no reason for fixing the percentage of depreciation upon the fair value.

We fix a rate on the book cost of one and one-half per cent. Applying this to the rate base gives 1.12 per cent. While this is ample to take care of any situation which it is reasonable to suppose may arise, as judged from past experience, yet it may be added, that the doors of the Commission are always open and that adjustments in amortization and depreciation allowances can be made at any time the same may be necessary. The effect of this holding is to maintain this property in its present excellent condition throughout the period of its life.

The term depletion, as defined by Mr. Uebelacker, has never been applied by the Gas Company nor by this Commission. Heretofore, both the Company and the Commission have included the term depletion, as used by Mr. Uebelacker, within depreciation. This we must continue to do and the allowance which we have made for depreciation covers both depletion, as used by Mr. Uebelacker, and depreciation. There is no reason for making a separation. (City of Charleston v. Public Service Commission, *supra*.)

IV.

RETURN.

While the Commission has uniformly allowed a return

of eight per cent upon either the investment or fair value of the property employed in the public service by a utility engaged in the natural gas business because of the hazard and risk which it has been agreed attaches to such business, yet while the risk and hazard was certainly present in the days of non-regulation, it is not present, at least to a very great extent at this time. With this Gas Company, all the territory acquired for gas production is carried through operating expenses paid by the consumers of gas. If a dry hole is drilled upon any of the acreage, it is likewise taken care of in operating expenses. Through amortization, the Gas Company has paid back to it not only the money which it puts into the plant but the present value of the plant. Further than this, acreage which proves of no value is likewise taken care of either through amortization or depreciation, so that while the independent or private operator does have the hazard and risk incident to an acquirement of bad acreage or the drilling of dry holes and the payment of royalties and rentals, there is no such risk here. The Commission can see no great risk in the business of this Gas Company that is not associated with other utilities. However, considering the value of the service as an element of value which should receive consideration, we will allow the usual return of eight per cent upon the rate base.

V.

GASOLINE.

The privilege of extracting gasoline from natural gas produced by this company is owned by the Virginian Gasoline and Oil Company, such privilege and the gasoline property and rights of the Gas Company having been sold to said company on May 1, 1922. As the record in Case No. 1251 discloses, and this record discloses, this Virginian Gasoline and Oil Company is a subsidiary of the Gas Company and owned by the holding or parent companies or the owners of the United Fuel Gas Com-

pany. The relationship of this Gas Company and its subsidiary is set out at length in the opinion written by Meredith, President, in the City of Charleston v. Public Service Commission, *supra*, as well as in the Bulletin written by Commissioner Lewis in Case No. 1251. The relationship and connection there established continues to exist. Conditions under which the Gasoline is extracted and the agreement of May 1, 1922, between the said Gas Company and Gasoline Company have not changed. As requested by the Gas Company, through its counsel, we have re-examined this gasoline question "with a view of determining and fixing a more stable basis for handling this phase of the case than is furnished by allowing one-half of the net profits derived from the sale of gasoline." Our examination leads us to the conclusion that under the facts in this present record, considered together with the facts in the record of Case No. 1251, we must reach the same conclusion as that at which the Supreme Court of Appeals arrived. The record supports and compels a finding agreeable to said holding, so that, using the language of the Court, "we think the extraction privilege is worth at least fifty per cent of the net profits and that proportion should be charged to the gas business."

VI.

VALUE OF THE SERVICE.

Reliance was placed upon the value of the service in Case No. 1251, and considering that record with the record in the present case upon this subject, we find no reason for attributing any special value to this service other than that which may be allowed through taking the value of the service into consideration in arriving at a proper rate of return. In this we are supported in the City of Charleston v. Public Service Commission, *supra*, in which case no allowance was made for such value although the question was raised before the Commission and before the Court upon appeal.

VII.

REVENUE AND EXPENSES.

The amount of net revenue that the Gas Company is entitled to earn depends upon the fair value of its property, a fair return thereon, the amount necessary for depreciation and depletion, and the amount necessary for amortization. As hereinbefore stated, we have arrived at a fair value of the Gas Company's property, the sum being $35,999,969.14. We have fixed a return of either per cent, a rate of 1.12 per cent for depreciation and depletion, and a rate of 4.15 per cent for amortization, a total of 13.27 per cent upon said rate base.

From what has just been said, the Gas Company must earn annually approximately $4,779,534.53 over and above its operating expenses and taxes. The gross revenues for the year 1923 were $7,730,176.40; (Jirgal Exhibit No. 6, Page 7, Line 1) the operating expenses and taxes were $3,734,802.82. (Jirgal Exhibit No. 6, Page 7, Line 11.) Subtracting the operating expenses and taxes from the gross revenue leaves $3,995,373.58 as the net earnings for said year. But, agreeable to the former holdings of this Commission and the decision of the Supreme Court of Appeals in said City of Charleston v. Public Service Commission, *supra*, certain adjustments must be made in these net earnings. We refer to the amount which should be paid to this Gas Company by its subsidiary, the Virginian Gasoline and Oil Company, for the "extraction privilege", which we hold to be worth "at least 50 per cent of the net profits" and to the receipts from gas sold by the Gas Company to its parent companies, the Columbia Gas and Electric Company and the Ohio Fuel Supply Company. Making these adjustments, there should be added for the gasoline "extraction privilege" for the year 1923, $934,393.41, ("Jirgal Ex. No. 1", p. 12) and on account of the sale of gas to said parent companies, $2,143,661.46 ("Exhibit Nease Report", p. 12, year 1923). Also there must be added to said net earnings on account

of production expense chargeable to the oil department, $88,039.31; profit and loss adjustments, $92,287.19; property taxes apportionable to other departments, $7,207.43; or a total adjustment of operating expenses of $187,533.93; (Jirgal Exhibit No. 6, Page 2) making a total of all adjustments amounting to $3,265,588.80. Adding said adjusted net earnings to the net earnings shown by the company, we have as the proper net earnings $7,260,962.38 for the year 1923, a return of 20.55 per cent upon the rate base found in this case.

For the year 1924 we do not have as complete a record as should have been made for us. However, in fixing the rate base we included therein the additions to capital for the greater part of said year, that is for the period ending November, 1924, and therefore we must take into consideration the revenues for the same period. By comparing "Hightower Exhibit No. 3-A" and "Hightower Exhibit Z", with the said 1923 earnings and operating expenses, we estimate the gross earnings for 1924 will be $7,770,000, approximately, the operating expenses and taxes, $3,890,000, leaving a net operating income of $3,880,000. To this amount must be added, agreeable to the foregoing, gasoline receipts estimated at $520,000, and gas sales to the said parent companies amounting to $2,400,000. Thus we arrive at an estimated net income for the Gas Company for the year 1924 of $6,800,000, a return of 18.89 per cent upon the rate base herein fixed.

VIII.

From the above it follows, necessarily, that the earnings, and receipts of the Gas Company are sufficient to give it the allowances herein made and a fair return upon the present fair value of its property; that the rates asked, as set out in the said tariff or schedule "P. S. C. W. Va. No. 4" are unjust and unreasonable and that said tariff or schedule must be cancelled.

An order will be entered agreeable hereto.

DIVINE, COMMISSIONER:

I am of the opinion that the rates filed by the Gas Company should be cancelled. This conclusion is reached in view of the evidence, which shows the Gas Company is making sufficient to give it a net return of approximately 12 per cent on the fair value of its property—as I determine it—using Jirgal's figures as to income and expense and the decision of the Supreme Court of Appeals in the case of City of Charleston vs. Public Service Commission, 95 W. Va. 91, P. U. R. 1924-D, 346. In that case it was seriously contended that in determining a just and reasonable rate, the value of the service to the consumer should be given consideration. Though the Court did not pass on this matter directly—in fact, did not even mention it—it is evident from the opinion that the Court held that a just and reasonable rate should be determined solely on the basis of the return on the fair value of the property, and no consideration given to the value of the service.

There is good authority for holding that the value of the service should be considered in determining a just and reasonable rate, but until our Court recognizes this as a proper matter for consideration in determining rates, I do not think we should give consideration to it. However, I desire to call attention to a few authorities bearing on this question:

Covington & Lexington Turnpike Co. vs. Sandford, 164 U. S. 578, 41 L. Ed. 560.

Cotteng vs. Kansas City Stockyards Co., 183 U. S. 79.

Canada Southern R. Co. vs. International Bridge Co., L. R. 8, App. C. 723, 731-2.

In view of the necessity of this Commission determining a just and reasonable rate solely on the basis of the Company receiving a return upon the fair value of its property, in my opinion the proposed rates should be can-

celled. If weight is given to the value of the service, the present rates should be increased, but not to the extent claimed by the Gas Company.

In the case of Re-Application of United Fuel Gas Company Case No. 585 and in other cases, this Commission held the Gas Company should account for one-half of the net profits received from gasoline; that the value of the privilege of using the gas for the extraction of gasoline was worth that. In the case of City of Charleston vs. Public Service Commission, *supra*, the Supreme Court of Appeals held the extraction privilege is worth at least 50 per cent of the net profits received for the gasoline.

If the retail consumers paid for gas on the basis of the value of the privilege of using it, or on the same basis as the Gas Company is required to account for gas used for gasoline purposes, the present rates to retail consumers would be materially increased.

In my view the fair value of the property of the United Fuel Gas Company as of December 31, 1924, is $41,165,000, which amount is reached by valuing the different classes of property as follows:

Physical Property, Dec. 31, 1923	$26,000,000.
Leaseholds, Dec. 31, 1923	10,500,000.
Going Concern Value	3,000,000.
Working Capital	999,000.
Additions to property in 1924	666,000.
	$41,165,000.

In arriving at the value of the physical property, I took into consideration the reproduction cost as found by Mr. Uebelacker and by Mr. Hagenah. These two engineers are within a few dollars of being together on the reproduction cost new except as to the items of interest during construction and cost of financing. If the amount of these items is allowed as contended for by Mr. Uebelacker (as they should be), and added to the Hagenah

reproduction cost new, the appraisals of the two engineers are within a few dollars of being together.

However, the two engineers differ very materially on depreciation, but an investigation of this question shows that Mr. Hagenah's theory of depreciation is untenable and the best evidence as to the proper amount to depreciate the property is that given by Mr. Uebelacker. To my mind, Mr. Uebelacker's reproduction cost less depreciation should be accepted rather than that given by Mr. Hagenah.

I also considered the estimated historical cost of the physical property, as testified to by Mr. Uebelacker, which I find to be $24,852,199.

I considered the book value as given by Mr. Jirgal and found the value of the physical property as of December 31, 1923, to be $19,317,202.

I gave consideration to the book cost adjusted to reflect prices as of December 31, 1923. I did this by adding 65 per cent to $9,251,206, which was that part of the investment in the physical plant installed prior to 1917.

After giving consideration to all the evidence on the value of gas rights and other evidence bearing on the matter, I have reached the conclusion that the fair value of the leaseholds is $10,500,000. I gave consideration to all the evidence introduced in connection with the value of gas rights given by the Gas Company, and it seems to me the two principal objections to the Company's contentions in this respect are:

I. The value placed upon the gas holdings is based on a rate of return, or earnings from the sale of the gas estimated to be in the ground, all of which evidence is contrary to the decision of our Supreme Court of Appeals in the case of Natural Gas Company of West Virginia vs. Public Service Commission, 95 W. Va. 57, and the case of the City of Charleston vs. Public Service Commission, 95 W. Va. 91.

II. All the witnesses who testified in behalf of the

Gas Company as to the value of the gas holdings, evidently assumed that the Company had fee ownership of the gas, whereas, as a matter of fact, it has mere leaseholds; the leasehold expense, the annual rental on the leaseholds, and royalties, when operated, being borne by the consumer.

The evidence clearly shows that the Company has invested in its gas holdings $6,971,509. The evidnece also clearly shows that from June 30, 1909, to December 31, 1923, the consumers paid in connection with these leaseholds as leasehold expense and rental on unoperated acreage the sum of $7,126,454.; and from January 1, 1916, to December 31, 1923, the consumers paid $1,252,896. as royalties, making a total of $8,379,350. paid by the consumers, being $1,407,841. more than the Gas Company had invested in the properties. It also appears the annual charges paid by the consumers in connection with the leaseholds are approximately $700,000.

I believe in fixing the value of the gas leaseholds we must value them as such and also give consideration to the fact that the consumers paid more to maintain these leaseholds than the Company has invested in them, and will, in the future, be required to pay all these operating expenses in connection therewith, which would not be the case if the Company owned the gas rights in fee.

I cannot agree with Chairman Stathers that the amount to be amortized is the fair value of the property. This Commission has uniformly held that only the amount to be amortized is that which has been actually invested. The allowance of anything for amortization was on the asumption that the life of a natural gas company is limited, and as soon as the gas is exhausted, the company is left with a large investment in the property which has not been returned to it. This scheme for the allowance of an amount for amortization only contemplated the owners of the property should have returned to them, in addition to a return upon their investment, every dollar they had put into it. If we accept, in this case, the fair

value of the property or the rate base as the amount to be amortized, the consumers are not paying back the actual investment, but are paying a much larger amount; they are also paying the owner the appreciated value of the property,—an amount which does not represent the expenditure of a single dollar.

If we hold that the rate base is the amount to be amortized, then the consumer is not only paying a return upon a value far in excess of the amount actually invested, but he is required to pay to the owners of the company for amortization many millions of dollars in excess of what has been actually paid out by them.

I cannot agree with the following statement made by Chairman Stathers in regard to amortization:

> "In the future and until all of the property has been amortized, but to that time only, any earnings of this Gas Company in excess of the allowance herein specifically made shall be applied to the amortization of its property."

The amount which we allow to amortize the property is just like any other operating expense allowance. We should compute what is necessary and what should be allowed each year to amortize the property within its estimated life. In my opinion it is not fair to the Company to hold that they may not make over eight per cent upon a rate which we have fixed as just and reasonable.

I cannot agree with Chairman Stathers as to the amount the Gas Company is to account for by reason of its sale of gas to the two parent companies. It is true that at the present time it has wholesale customers from whom it is receiving an average of 19.45c per thousand cubic feet, but I do not think that is any reason why this rate should be applied to the two parent companies. We are not adjusting contract rates between various wholesale purchasers, but are trying to determine the fair amount of revenue the company should receive in order to fix the rate for its retail consumers in this State. If we held that these two parent companies should pay 19.45c

per thousand cubic feet for gas, we are requiring them to pay a rate nearly as high as the domestic consumers and higher than some of the retail consumers. In my opinion we should accept Mr. Jirgal's figures on this matter.

In my judgment it is not necessary to indicate what rate of return this Company is entitled to receive. We are making an effort to determine just and reasonable rates, and though we may give this matter consideration in our study of the case, I do not think it necessary—particularly in this case—to fix the rate of return this Company is entitled to.

In my view the following is a statement of the Earnings and Expenses, which should be accepted in this case:

EARNINGS

Gross Earnings, Jirgal Ex. 1, Page 6	$ 9,225,673.00
Add 50% Gasoline Net Earnings	934,393.00
Total	$10,160,066.00

EXPENSES

Operating Expenses and Ordinary Taxes	$ 3,343,450.00
Income Tax	312,346.00
Amortization and Depreciation 3-1/4% on rate base of $41,165,000	1,337,862.00
	$ 4,993,658.00

Earnings	$10,160,066.00
Expenses	4,993,658.00
Net Earnings	5,227,408.00

The views which I have expressed in this memorandum do not in any way affect the results of this case. In the absence of giving weight to the value of the service, in determining a just and reasonable rate, the rates filed by the Company should be cancelled.

LEWIS, Commissioner, dissenting:

I cannot concur in the foregoing opinion of Chairman Stathers in at least three different particulars:

(1) In fixing the value of the gas reserves or the gas leases of the United Fuel Gas Company, he has disregarded what seems to me to be binding and sufficient evidence of a proper value of said leases. Value is a matter of opinion of persons experienced in dealing with the property in question and the market therefor. In making investments in gas properties, the investor either relies upon his own judgment as to the quantity of gas contained under the leases sought or takes the advice of geologists and other persons experineced in such matters. In the instant case, many witnesses who have spent years in the development of gas properties, who have been buying and selling gas leases, and who are acquainted with the market value of such properties, have testified as to the present fair value of the gas reserves or the leases and leasehold estates under consideration. A geologist and engineer of reputation and experience in the investigation and examination of gas reserves testified as to the quantity of gas contained in the land covered by said leases and also as to the value of said gas. There was no effort made to contradict any of these witnesses as to the value each one placed on the gas property in question. The evidence of these witnesses is uncontradicted except by what the books show to be the original cost of said leases. The book cost of a gas lease does not reflect the value of the lease itself or of the gas contained thereunder. A gas lease would not be worth anything if there was no gas under the land covered by said lease. The territory covered by a large portion of the leases in question has been proven to contain large deposits of gas and for that reason a substantial value has been added to said leases. If we are to ignore the testimony of the witnesses mentioned and to say that they have not proven any value that attaches to said leases over and above the book cost thereof, we must then say that if said leases have a value over and above the book cost thereof, that value cannot be proved, which is begging the question.

(2) I cannot agree with Chairman Stathers in the matter of the retirement or amortization of the property in question. In order to ascertain how much property remains to be amortized it is necessary to find out how much of the property the stockholders have taken out in excess of what they were entitled to earn as a fair return. The instant case differs from the case of the Clarksburg Light & Heat Company vs. Public Service Commission, cited by Chairman Stathers, in that in the latter case the stockholders had taken out very large amounts of money over and above a fair return and had not reinvested it in the property. In the instant case the stockholders have reinvested in the property in the way of increasing the gas holdings, maintaining the service, and improving the service, a sum in excess of $18,000,000.00. Mr. Uebelacker says that the wear and deterioration of the physical plant of the gas company, not including the gas areas, amount to more than $8,000,000.00. That is, the consumers have had the benefit of $8,000,000.00 worth of the plant which amount the stockholders have lost by reason of serving these consumers and which amount will not be returned to them unless it is taken out of the amortization fund. The stockholders are entitled to have this plant returned to them in a one hundred per cent condition in respect to its present fair value. Mr. Stathers ignores this sum of over $8,000,000.00 and proceeds to deduct an amount in excess of $14,000,000.00 from the present fair value of the property before he undertakes to provide for the amortization of the plant in the future. The stockholders put their earnings back into the plant and are entitled to have these earnings returned to them in the way of amortization. It is unfair to them to ignore the sum of over $8,000,000.00 that has been lost to them by reason of the use of the property and further deduct a sum in excess of $14,000,000.00 and then provide for the amortization of only the residue of the plant and the additions that will be made in the future.

(3) In arriving at the amount of revenue the gas com-

pany earned for 1924, Chairman Stathers includes a sum of $2,400,000.00, which he holds the two parent companies should have paid for the gas they used in excess of the amount they actually paid. In arriving at this additional revenue, it is necessary to charge the parent companies a fraction in excess of 15c per thousand cubic feet for the gas delivered to them. It is in evidence in this case and uncontradicted, that it costs a fraction in excess of 11c per thousand cubic feet to deliver gas from the gates of the city to the domestic consumers (Uebelacker Exhibits Nos. 5 to 8A, inclusive). It costs the gas company no more to deliver the gas to the parent companies than it does to deliver it to the gates of the city. Under the present rates, the domestic consumers of Charleston are getting their gas for 20c per thousand cubic feet and the Huntington consumers for 21c per thousand cubic feet. It has been the experience of the Commission in such investigations that it costs at least 10c a thousand to distribute gas from the gates of the city to the consumers. Mr. Uebelacker in his estimate did not give any weight to leakage in the distribution system. If it costs 11c to distribute gas from the gates of the city to the domestic consumers of this gas company, and the parent companies are required to pay in excess of 15c for gas delivered at wholesale, it follows that the parent companies and other wholesale consumers are bearing an expense that should be borne by these domestic consumers. The gas company is selling gas at wholesale to some of its patrons at a greater price than it is getting for gas from the domestic consumers, and in considering the revenues of the gas company this revenue which is derived from wholesale gas is included. I cannot agree with the statement of Chairman Stathers that this Commission has jurisdiction over the wholesale gas. If it has such jurisdiction, then in order to avoid discrimination it should reduce the prices to some of the wholesale consumers.

THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA

CAPITOL BUILDING, CHARLESTON.

A meeting of THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA, held on the 24th day of March, A. D., 1925.

CASE No. 1516.

UNITED FUEL GAS COMPANY,

Investigation and suspension of P. S. C. W. Va. No. 4, prescribing rates for natural gas to its consumers within the State of West Virginia.

This proceeding came on this day for final decision upon the tariff or "Schedule of Rates for Natural Gas" filed by the United Fuel Gas Company with this Commission on the 26th day of April, 1924, "effective May 31st, 1924," known and designated as "P. S. C. W. Va. No. 4" and superseding "all preceding schedules"; the order of the Commission entered herein on said 26th day of April, 1924, suspending the operation of said tariff or schedule, pending a hearing, investigation and decision thereon, until the 22nd day of August, 1924, unless otherwise ordered by the Commission; the notice given by the Gas Company as required by said order; the Company's protest, in writing, against, or motion to vacate, the said order of this Commission; the motion, in writing, filed by the protestants, to strike out the said "protest or motion"; the appearance to this proceeding and protest against said tariff or schedule of rates entered by the City of Charleston, the industrial consumers of the City of Charleston and vicinity, the City of Huntington, the Manufacturers Club of the City of Huntington and others; the motion of the Gas Company to consolidate this proceeding and "*In Re* United Fuel Gas Company, Application for authority to change rates for natural gas, Case No. 1251; the joinder in said motion by the protestants and the con-

solidation and hearing together of the two proceedings; the orders of this Commission entered herein on July 2nd, 1924, August 21st, 1924, and February 18th, 1925, the last order further suspending the operation of said tariff or schedule to the 25th day of March, 1925; the evidence taken before the Commission at its offices at Charleston, beginning with the initial hearing on May 28th, 1924, and ending with the final hearing on January 25th, 1925, and the argument of counsel for the Gas Company and the protestants.

Upon consideration of all which, the Commission is of opinion that, for reasons set out in a written opinion, which is hereby made a part hereof, the said protest against, and motion to vacate and set aside, said suspension order of April 26th, 1924, should be overruled; that the rates for natural gas set out in said tariff or schedule, "P. S. C. W. Va. No. 4" are unjust and unreasonable, and that said tariff or schedule should be cancelled.

It is, therefore, considered and ordered by the Commission that said motion to vacate said suspension order of April 26th, 1924, be, and the same is, hereby overruled, and that said tariff or schedule be, and the same is, hereby, cancelled and held for naught.

LEWIS, Commissioner, dissents.

DIVINE, Commissioner, concurs in the order but dissents from certain views expressed in the opinion, as shown in memorandum filed herewith.

A Copy.

Teste:

R. B. BERNHEIM,
Secretary.

[fol. 145] IN UNITED STATES DISTRICT COURT

[Title omitted]

ANSWER OF DEFENDANTS THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA, HOWARD B. LEE, ATTORNEY GENERAL OF THE STATE OF WEST VIRGINIA, AND FRED M. LIVEZEY, COUNSEL FOR THE SAID THE PUBLIC SERVICE COMMISSION OF WEST VIRGINIA

[fol. 146] Now come The Public Service Commission of West Virginia, Howard B. Lee, Attorney General of the State of West Virginia, and Fred M. Livezey, Counsel for the said The Public Service Commission of West Virginia, and for answer to the bill of complaint of the plaintiff herein and without waiving their notice to dismiss said bill of complaint, but at all times relying thereon, answering show:

First

These defendants admit the averments contained in the first clause of the plaintiff's bill.

Second

That it is true that this suit is of a civil nature in equity and is brought for the purpose of enjoining the enforcement of an order of the Public Service Commission of West Virginia, entered on the 24th day of March, 1925, refusing to allow the plaintiff to increase its rates for furnishing natural gas to its customers in the State of West Virginia, but these defendants deny that the cause of action asserted by the plaintiff arises under the Constitution and laws of the United States because of any of the reasons alleged by the plaintiff in its said bill of complaint, and these defendants specifically deny that the rates which the plaintiff is required to charge because of the order aforesaid are confiscatory of plaintiff's property. These defendants deny that said order and the proceeding of the said [fol. 147] Public Service Commission deprive the plaintiff of its property without due process of law, or deny to the plaintiff the equal protection of the laws in violation of plaintiff's right under the Fourteenth Amendment to the

Constitution of the United States, and these defendants, therefore, deny that said order is null and void as alleged in the plaintiff's bill of complaint.

These defendants say that it may be true that the amount in controversy in this suit exceeds the sum or value of three thousand ($3,000.00) dollars, exclusive of interest and costs.

Third

These defendants admit the averments contained in the third clause of plaintiff's bill of complaint, except insofar as it is therein alleged that the plaintiff discovered that it was impossible to operate under the rates prescribed by The Public Service Commission of West Virginia, so as to yield to the plaintiff a fair return upon its property used and useful in the public service and to pay the expenses of conducting said business, and these defendants deny that it was impossible for the plaintiff to operate under the rates so prescribed by said Public Service Commission of West Virginia so as to yield to the plaintiff a fair return upon its property used and useful in the public service and pay the expenses of conducting said business as is alleged in said bill of complaint.

[fol. 148] Fourth

These defendants admit the averments of the fourth clause of the plaintiff's bill of complaint, but these defendants do not admit the correctness of the fair value of the various items of the plaintiff's property as testified to by the witnesses on behalf of the plaintiff and as alleged in said fourth clause of the plaintiff's bill of complaint, but these defendants say that the aggregate of the fair value of the plaintiff's property does not exceed the sum of $35,999,969.14, as fixed in the opinion of Chairman Stathers, exhibited with the plaintiff's bill of complaint, marked "Exhibit P. S. C. Opinion."

Fifth

These defendants admit that part of the plaintiff's property consists of gas rights in more than eight hundred thousand acres of land, but these defendants aver that the total acreage of such gas rights as disclosed by the record

in the proceeding before the said Public Service Commission of West Virginia is 814,910.68 acres, of which 41,969.47 acres is owned in fee and the remainder of which is held under written contracts, referred to in the testimony as leases.

These defendants admit that the plaintiff had a survey and study of such gas rights made by Ralph E. Davis and that the said Ralph E. Davis made a report showing the result of his survey and study and his conclusions with respect thereto, as alleged in plaintiff's bill of complaint, but [fol. 149] these defendants deny that the conclusions so reached by the said Ralph E. Davis, as shown by his said report and by his testimony before said Commission, constitute competent or proper evidence, but on the contrary, these defendants say that the correct fair value of such gas rights, as shown by competent and proper proof before said Commission, is not in excess of the sum of $6,361,511.42.

These defendants further admit that with the information furnished by Mr. Davis, the firm of Ford, Bacon & Davis undertook to ascertain the value of such gas rights, and in doing so the said firm attempted to set up such value based upon figures which had no relation to public service control; that the method used and the results obtained fully appear from the valuation report of said firm of Ford, Bacon & Davis, as alleged in said bill of complaint, and that as shown by said report said firm found that said gas rights had a value of $36,449,176.00, but these defendants deny that such valuation is the present fair value of such gas rights.

These defendants further admit that the plaintiff introduced before said Commission a number of other witnesses who testified with respect to the value of such gas rights, but these defendants deny that the testimony of such witnesses constitute competent and proper evidence of such values, for the reasons set forth in the opinion of Chairman Stathers.

Sixth

These defendants admit the averments contained in the sixth clause of the plaintiff's bill of complaint.

The plaintiff, in its bill of complaint, refers to the said opinion of Commissioner Stathers as setting forth the holdings of said Commission, and said opinion will be so treated

and referred to in the answer of these defendants, but these defendants say that the individual views of the members of said Commission are as set forth in said several opinions exhibited with plaintiff's bill of complaint, reference to which exhibits is here made.

[fol. 150] Seventh

These defendants say that it is true that the Commission found the going concern value of the plaintiff company to be three million dollars and that it also found that $900,000.00 was a proper amount for working capital, including the value of supplies required to be kept on hand, but these defendants deny that the amount so found by the Commission for going concern value and working capital would make a total present fair value of the physical property of $32,621,320, as is alleged by the plaintiff in its bill of complaint, but these defendants say that said sum of $32,621,320, represents the estimate by Ford, Bacon & Davis of the reproduction cost new, less depreciation, of the plaintiff's property exclusive of the value of gas rights and using the going concern value and working capital as determined by the Commission.

These defendants say that it is true that the Commission found that there was included in such estimate of the cost of reproduction new, less depreciation, an item of $254,332.00, the cost of dry holes, and that it is likewise true that the Commission was of the opinion that such item should not be included in ascertaining the present fair value of the plaintiff's property, for the reasons set forth in opinion of Chairman Stathers.

These defendants deny, however, that the Commission found the present fair value of the plaintiff's property, excluding the value of gas rights, to be $32,366,988.00, as alleged in the plaintiff's bill of complaint.

These defendants say that it is true that the Commission found the present fair value of the plaintiff's property, ex- [fol. 151] cluding the value of gas rights, to be the sum of twenty five million dollars as of the 31st day of December, 1923, but these defendants deny that such finding was made because of the fact that such property did not cost the sum of $32,366,988.00, as is alleged in plaintiff's bill of com-

plaint. These defendants say that such valuation of twenty-five million dollars as of the 31st day of December, 1923, was arrived at by the Commission from all of the evidence before it and in accordance with the principles of law applicable thereto.

These defendants say that it is true that in addition to the twenty-five million dollars the Commission allowed the sum of $666,639.45, which had been added to the plaintiff's plant since the 31st day of December, 1923.

These defendants deny that it was shown by the testimony of witness Hightower that there had been expended for additions to the plant the sum of $2,000,676.57, in addition to the value of parts which had been retired, but these defendants say that the testimony of said witness Hightower showed an increase in "capital expenditures" during the year 1924 up to the 30th day of November of that year, of $2,000,676.57, and that of this amount $1,334,037.10 had been expended in incomplete construction, leaving the sum of $666,639.47 expended upon completed construction. These defendants say that it was thus shown that said sum of $666,639.47 had been expended upon completed construction, and assuming that such construction had been put into service, the Commission allowed such sum as a part of the present fair value of the plaintiff's [fol. 152] plant, but that the evidence showed that the amount of $1,334,037.10 had been expended in incomplete construction, and there being no evidence whatever as to when the property represented by such amount may be put into the public service, the Commission refused to include such amount in the fair value of the plaintiff's property, which holding is strictly in accordence with the principles of law applicable thereto.

These defendants deny that the decision and action of the said Public Service Commission in fixing the present fair value of the plaintiff's plants at $25,666,639.47 determines such value to be nine million dollars less than the actual present fair value of such properties. These defendants specifically deny that the judgment and action of said Commission failed to allow the plaintiff the actual present fair value of its property as a basis for the rate to be paid by its consumers, and these defendants specifically deny that the action and findings of said Commission with

respect to the value of the plaintiff's said property is a taking of the plaintiff's property without just compensation and in violation of the Fourteenth Amendment to the Constitution of the United States.

Eighth

These defendants deny that the Commission refused to consider any of the evidence introduced by the plaintiff with respect to the value of its gas rights and gas properties, but that it is true that the Commission allowed as a value [fol. 153] therefor for the purpose of rate making the sum of $6,361,511.42, and these defendants deny that the plaintiff company, or its predecessors, paid said sum for said gas rights many, many years ago, as is alleged in plaintiff's bill of complaint. These defendants say that the said sum of $6,361,511.42 is the amount at which the plaintiff's gas rights, consisting of leases and leaseholds, are carried upon the plaintiff's books, after deducting the amount expended for oil leases, and that it appeared from evidence before the Commission that such amount had no reference to any cash consideration involved, but was the result of an appraisal made in 1911 by the plaintiff company; that the evidence before the Commission tended to show that the actual cost of such gas rights was approximately $1,813,763.40. These defendants say that in the absence of any competent or proper evidence showing an appreciation in the value of the plaintiff's gas leases and leaseholds, and for the reasons set forth in its opinion, the Commission accepted the book value after the adjustment aforesaid, and included the sum of $6,361,511.42 as the present fair value of such gas rights in the total amount representing the present fair value of the plaintiff's property.

These defendants admit that in addition to the sum of $6,361,511.42, the book cost of said leases, the plaintiff has paid out the sum of $8,817,989.96 as rentals or installments upon said leases, whereby the same have been kept in effect, but these defendants say that said sum so paid out as lease rentals was paid out of the earnings of the plaintiff company and charged to operating expenses and that after charging such rentals to operating expenses and making [fol. 154] due allowance for amortization, the plaintiff company has earned more than a fair rate of return upon the

fair value of its property in each year, and that since the plaintiff's patrons or gas consumers have thus paid such rentals, the Commission properly held that the said sum of $8,817,909.96 so paid out by the plaintiff for lease rentals should not be included as a part of the cost of such leases.

These defendants deny that the rate of return allowed by the Commission is inadequate for any of the reasons set forth by the plaintiff in the eighth clause of its bill of complaint.

These defendants deny that the evidence introduced by the plaintiff as to the present value of its gas rights, as alleged in the eighth clause of said bill, is competent and proper evidence and these defendants deny that the present fair value of such gas rights is at least the sum of thirty million dollars.

These defendants specifically deny that the action of the Commission in fixing the value of said gas rights at $6,361,511.42 and in denying the plaintiff the right to charge a rate to its consumers which would produce a return on any larger sum as respects such gas rights, deprives the plaintiff of its property to the extent of twenty five million dollars, or to any extent, without compensation, and these defendants specifically deny that the action of said Commission is in violation of the Fourteenth Amendment to the Constitution of the United States.

Ninth

These defendants specifically deny the averments contained in the ninth clause of the plaintiff's bill of complaint.

[fol. 155]

Tenth

These defendants say that it is true that said Commission fixed the fair value of plaintiff's property upon which it was entitled to a return in the aggregate at $35,999,966.14, and adjudged that plaintiff was entitled to a return of eight per cent. upon this amount, that it was also entitled to a return of one and one-half per cent. for the purpose of depreciation, and that in addition thereto it was entitled to earn sufficient to amortize the plant within the probable life of the property.

These defendants deny that the Commission found, as

alleged in the plaintiff's bill of complaint, that the plaintiff was only entitled to have its plant amortized to the extent of twenty million dollars, instead of the full amount thereof. It is denied that the Commission found that the plaintiff company had set up an amortization, or depreciation, reserve which amounted to nearly fifteen million dollars, but it is averred that the Commission's findings with respect thereto are as set forth in the opinion of Chairman Stathers exhibited with the bill of complaint.

These defendants say that it is shown by said opinion that the financial history of the plaintiff company discloses that during the period from its reorganization in 1909 to 1923 the plaintiff earned over and above its operating expenses, including a reasonable allowance for depreciation, and over and above a fair rate of return upon the fair value of its property the sum of $22,668,327.84, and that applying the principles of law applicable thereto the company had [fol. 156] amortized to December 31, 1923, its plant to the extent of $22,668,327.84. For reasons appearing in said opinion, instead of spreading such amortization over the life of the property, the Commission restricted such amortization to the period from 1916 to the present time. It appears from said opinion that during such period the Commission treated amortization and depreciation together. After segregating depreciation from the amortization, as approved by the Commission in the various cases before it, it appears from said opinion that the plaintiff company earned for amortization purposes, applying the rates as approved by the Commission during said period from 1916 to December 31, 1923, the sum of $14,028,737.03, and that after deducting this sum, together with the sum earned for depreciation, from the net earnings of the plaintiff company during the period, that there was left to the company out of its net earnings a sum which gave to the company a rate of return considerably in excess of eight per cent.

As from said opinion it will appear the Commission found that the plaintiff was entitled to amortize the fair value of its plant rather than the cost hereof, and afer deducting the sum of $[illegible], allowed as working capital, from the rate base, it was found that the fair value of the plaintiff's property which it was entitled to have returned to it through amortization was $35,869,969.14, but of this sum

the plaintiff company had returned to it, as hereinbefore shown at rates approved by the Commission, during the period from 1916 to December 31, 1923, the sum of $14,028,737.03, so that there was left to be amortized during [fol. 157] the remainder of the life of the plaintiff's property the sum of $20,981,232.11. It will thus be seen that the plaintiff company under said opinion, in addition to operating expenses, including depreciation, and a fair rate of return, is permitted to return to itself through amortization a total value of $35,009,969.14, although the total book cost of the plaintiff's property to December 31, 1923, was only $26,288,921.83.

These defendants deny that such holding as is set forth in said opinion entirely loses sight of the fact that the property has already been amortized to the extent that this amortization reserve exists as is alleged in plaintiff's bill, and these defendants now aver that the plaintiff company has not set up on its books any such amortization reserve, but that the amortization earned and to be earned is fixed by said opinion.

These defendants deny that the valuation claimed by the plaintiff for its property is practically nine million dollars less than the property would cost new, although it may be true that some of the witnesses on behalf of the plaintiff may have fixed a reproduction cost new at approximately nine million dollars in excess of their estimate of the cost of reproduction, less depreciation.

These defendants aver that, as held in said opinion, the plaintiff is entitled to have amortized the fair value of its plant, that beginning with the year 1916 and up to December 31, 1923, the plaintiff has had returned to it by [fol. 158] by way of amortization said sum of $14,028,737.03, and that it is entitled to have returned to it during the remainder of the life of its property the balance of $20,981,232.11.

These defendants deny that to deduct said fourteen million dollar amortization fund from the present fair value of the plaintiff's property is to take it off twice, or that to do so presents the anomalous position of giving the plaintiff a rate of return upon the present fair value of its property, but permitting the public to take that property and use it in the public business and consume it therein by paying only twenty million dollars therefor.

These defendants deny that said Commission held that the plaintiff was only entitled to have its plant amortized to the extent of twenty million dollars, but say that the holding of said Commission is as hereinbefore stated and as will more fully appear by reference to the opinion of Chairman Stathers; and these defendants specifically deny that the action of said Commission deprives the plaintiff of its property without compensation, or constitutes an appropriation thereof to the public use without compensation, or that the same is in violation of the Fourteenth Amendment to the Constitution of the United States.

Eleventh

These defendants admit that it is true that in determining whether or not plaintiff was entitled to increase its [fol. 159] rates the said Commission attempted to ascertain the plaintiff's income from all sources, that having ascertained this said Commission found that plaintiff's total income was producing a sufficient return upon the present fair value of the plaintiff's property as found by said Commission. These defendants specifically deny that such method does not reach a just conclusion, for the reason alleged in the plaintiff's bill of complaint, or for any other reason.

These defendants say it may be true that a large part of plaintiff's gas is sold at wholesale under what is termed in the bill of complaint "private contract", at a higher rate than is received for the gas delivered to what is termed in the bill of complaint "public service consumers", but because of the condition incident to such sales, respectively, these defendants deny that the effect of the method adopted by said Commission in ascertaining whether or not a fair rate is being received, is to appropriate to the use of so-called public service consumers in West Virginia profits made by the plaintiff upon the gas sold to its so-called private consumers and to its public service consumers in other states.

These defendants aver that the rates at which the plaintiff sells its gas within the State of West Virginia to the so-called private consumer, and public service consumer, are subject to regulation by the Public Service Commission of West Virginia.

These defendants deny that any return or profit made by the plaintiff upon gas sold to its wholesale consumers [fol. 160] and others is private property and these defendants deny that said commission by its order or opinion has taken any profits derived by the plaintiff from its wholesale consumers and appropriated the same to the use of the so-called public service consumers, and these defendants specifically deny that the action of said Commission as shown by its order and opinion constitutes an appropriation of the plaintiff's property to the public use without just compensation, or that the same is in violation of the Fourteenth Amendment to the Constitution of the United States. These defendants deny that the question to be determined by said Commission and the method of determining such questions are as alleged by the plaintiff in the eleventh clause of its bill of complaint.

These defendants deny that the holding of the Public Service Commission is erroneous, or that the same deprives the plaintiff of its property without just compensation in violation of the Fourteenth Amendment to the Constitution of the United States, as is alleged in the eleventh clause of the plaintiff's bill of complaint.

These defendants say that it may be true that in order to reach the conclusion that the plaintiff's net income for the year 1923 was $7,260,962.38, that the Commission added to the actual income of the plaintiff as shown by its books the sum of $2,143,661.46, being the difference between what the plaintiff charged its parent companies for gas furnished to them, and what the Commission held should have been charged, and by adding the further sum of $934,393.41 for [fol. 161] one half of the net profits from the manufacture of gasoline during the year 1923, and these defendants say that such action of the Commission is strictly in accordance with a decision of the Supreme Court of Appeals of West Virginia as will be more fully set forth hereinafter.

These defendants say that there is nothing significant in the fact that the Commission in making such adjustment of earnings did not reduce the sum by the amount that the plaintiff received from other wholesale consumers and other consumers outside of the State of West Virginia in excess of the average West Virginia public service rate, but these defendants aver that the action of said Commission in

that regard was strictly in accordance with the evidence adduced before said Commission and the principles of law applicable thereto.

These defendants deny that said Commission, in adjusting such net income, did not consider that federal income taxes upon the plaintiff's income would be increased to the extent of twelve and one half per cent of the amount added to the actual income received as shown by the plaintiff's books, and these defendants deny that the Commission made no allowance whatever for such amount, and these defendants further deny that there are other adjustments and allowances made by said Commission which have no support in the evidence.

These defendants specifically deny that the holding of the Public Service Commission of West Virginia with respect to the matters complained of in the eleventh clause of the plaintiff's bill of complaint deprive said plaintiff of its property without compensation, or that the same violates [fol. 162] the Fourteenth Amendment to the Constitution of the United States.

Twelfth

These defendants admit that the Public Service Commission in arriving at its conclusions found that the plaintiff was entitled to receive from the Virginian Gasoline & Oil Company one-half of the net profits arising from the manufacture of gasoline by that company; that it is true that the plaintiff sold to the Virginian Gasoline & Oil Company its gasoline extraction plants, together with all of its oil holdings, for a substantial consideration, and that the plaintiff granted to the Virginian Gasoline & Oil Company the right to extract the gasoline from the natural gas produced by the plaintiff for a royalty of one-eighth of the gross amount received by the said Virginian Gasoline & Oil Company therefor, but these defendants deny that said contract was entirely fair and provides an adequate compensation to the plaintiff for the privileges of extracting such gasoline, but say that the facts with relation thereto are as will be more fully hereinafter set forth.

These defendants say that it is true that the Commission substituted for the consideration provided to be paid in the said contract of one-eighth of the gross receipts from

gasoline, a one-half of the net receipts therefor, which it may be true for the year in question because of a rise in the price of gasoline happened to be much more than the amount provided for in the contract. These defendants [fol. 163] deny that the provisions of such contract provide a much more equitable and suitable compensation for such privilege than that set up by the Commission and these defendants specifically deny that there is absolutely no basis for the findings of the Commission, but on the contrary, these defendants aver that the finding of said Commission with respect to such gasoline earnings is eminently fair and supported by the evidence in the record before said Commission, but that notwithstanding such fact the method of treatment of such gasoline earnings has heretofore been adjudicated by the Supreme Court of Appeals of West Virginia, as will be more fully hereinafter set forth and said Commission was bound by said adjudication.

And these defendants specifically deny that the action of said Commission in increasing plaintiff's revenue by the addition thereto of one-half of the net profits from the manufacture of gasoline has the effect of relieving the public service consumers from the payment of a fair return to the plaintiff for the gas furnished to them to the extent that such one-half of the net profits from said gasoline increases the plaintiff's net earnings, and these defendants specifically deny that the plaintiff is thereby deprived of the right to earn a fair return upon its property, or that the plaintiff is deprived of its property without just compensation in violation of the Fourteenth Amendment to the Constitution of the United States.

Thirteenth

With respect to the method used by the Commission in adjusting the plaintiff's earnings by adding to the earnings [fol. 164] as shown by the company's books, one-half of the net earnings from the gasoline business, and the sum of $2,143,661.46, as the difference between what the plaintiff charged its parent companies for gas furnished to them and what the Commission held should have been charged, these defendants say that these issues have been before said Commission heretofore; that the last case before the present one in which such issues were involved before the

Commission was known as Case No. 1251, in which the Commission on the 9th day of August, 1923, made its decision and order, whereby the plaintiff was granted authority to increase its rates; that pursuant to the statute certain of the protestants who had appeared before the Commission in said Case No. 1251, filed their petition with the Supreme Court of Appeals of West Virginia for an appeal from such order and the order allowing the increased rates was sustained by said Court and the matter set down for hearing and such further proceedings were had in said Court that on the 27th day of November, 1923, said Court reversed and set aside the order of the Commission of August 9, 1923, and remanded said proceeding to the Commission for such further investigation and order as might be proper, all of which will more fully and at large appear by reference to the decision and opinion of said Supreme Court of Appeals of West Virginia, which said case is known as City of Charleston, et al., vs. Public Service Commission, et al., and is reported in Volume 120 S. E. Rep., at page 398, to which reference is hereby made.

These defendants further say that in said Case No. 1251 it was shown before the Commission that the Columbia Gas & Electric Company and the Ohio Fuel Supply Company, [fol. 165] respectively, on fifty one per cent. and forty nine per cent. of the capital stock of the plaintiff company, which said two companies were referred to in said proceedings, and are herein referred to, as the parent companies; that such parent companies were taking from the plaintiff company large supplies of gas, but that they were not paying therefor as high a rate as other producing companies taking gas under similar conditions. It also appeared in said proceeding that the Hope Natural Gas Company and Pittsburg & West Virginia Gas Company were purchasers of large quantities of gas from the plaintiff company, for which they paid a much higher price than did the parent companies, although they did not in practical effect enjoy any special advantages over such parent companies. It was held by the said Supreme Court of Appeals of the State of West Virginia that in ascertaining the revenues of the plaintiff company the two parent companies should be required to pay as high a rate as the Hope Natural Gas Company and the Pittsburgh & West Virginia Company.

These defendants say that the transfer by the plaintiff company to the Virginian Gasoline & Oil Company, as well as the contract between the plaintiff company and said Virginian Gasoline & Oil Company with respect to the right to extract gasoline from natural gas produced by the plaintiff, which said transfer and contract are referred to in the twelfth clause of the plaintiff's bill of complaint, and all of the facts, circumstances and conditions surrounding such transfer and contract were fully set forth in said Case No. 1251, and that the said Supreme Court of Appeals of West Virginia aforesaid held that in ascertaining the correct net [fol. 166] earnings of the plaintiff company at least fifty per cent. of the net profits from such gasoline business should be included in the net earnings of the plaintiff company.

These defendants further answering say that the record in said case No. 1251, after the same had been remanded to said commission by the said Supreme Court of Appeals of West Virginia was, upon motion of the plaintiff, consolidated with the record in the present case No. 1516, in which the order of March 24, 1925, was made by the Commission and of which the plaintiff is complaining in this suit, and these defendants now say that the holding of said Commission in the present case in making adjustments in the plaintiff's revenue with respect to gas sold to the parent companies and earnings from gasoline business, is strictly in accordance with the opinion and decision of the said Supreme Court of Appeals of West Virginia. These defendants, therefore, say that the issues with respect to the proper method of treatment of the plaintiff's revenues in connection with such gasoline earnings and the sales of gas to its parent companies have been fully and finally determined by the said Supreme Court of Appeals of West Virginia by its order and decision made on the 27th day of November, 1923, in the said suit of the City of Charleston, et al., appellants, against The Public Service Commission of West Virginia, et al., appellees, and in which said proceeding the said plaintiff company was one of the appellees and in privity with the defendant, The Public Service Commission of West Virginia, and in which said appeal and proceeding the issues, evidence and exhibits with respect [fol. 167] to the questions aforesaid are identical with the

issues, evidence and exhibits in the subsequent proceeding before said Commission, known as Case No. 1516, and in which said order of March 24, 1925, was made, and of which the plaintiff is now complaining, and by reason of which these defendants now say that such issues have become and are as to the parties hereto res adjudicata.

Fourteenth

These defendants admit the averments contained in the thirteenth clause of plaintiff's bill of complaint.

Fifteenth

These defendants say that it is true that under the provisions of the said act of the Legislature of West Virginia creating said Public Service Commission, it is provided that any public service corporation, or any officer or agent thereof, participating therein, who shall violate any provisions of the act, or any order of the Commission, shall be subject to fines or be imprisoned in jail for each offense, or both, at the discretion of the Court, but these defendants deny that the plaintiff cannot put into effect any rate which would afford to it reasonable compensation for the services rendered by it without being made subject to prosecution therefor and to said fines and penalties, but on the contrary, these defendants say that the rates prescribed by the order of said Commission do and will afford the plaintiff a reasonable compensation for the services rendered by it. [fol. 168] These defendants say that it is true that the defendants, Howard B. Lee, Attorney General of the State of West Virginia, and Fred M. Livezey, counsel for said Public Service Commission, are charged with the duty of enforcing said provisions of said act and the orders of said Public Service Commission and would proceed to enforce against said plaintiff and its officers and agents the fines and penalties provided by said act should it undertake to charge any rate in excess of that now being charged by it.

Sixteenth

These defendants further answering deny that the plaintiff is prevented and intimidated from putting into effect a schedule of rates for natural gas supplied to its patrons

which would yield to it an adequate return for the service rendered, because of any highly excessive or unusually severe penalties provided in the above mentioned suit, but, on the contrary, these defendants aver that the rates now in effect by the plaintiff yield to it an adequate return for the service rendered. These defendants say that it may be true that because of the fines and penalties prescribed by the above mentioned statute that the plaintiff is forced to keep in effect the requirements and schedules prescribed by the Public Service Commission, but these defendants specifically deny that the imposition, or threatened imposition, of such penalties forced upon the plaintiff an abandonment of its rights to act independently of the requirements of said [fol. 169] Public Service Commission, and these defendants specifically deny that the requirements of said Commission are void or illegal.

These defendants further deny that the plaintiff is deprived of its property without due process of law, or that it is compelled to produce, transport and deliver gas to its consumers for less than the actual cost thereof, to-wit, after allowing a sum sufficient to pay for the gas used and for the amortization of its plant for the reasons as alleged in the fifteenth clause of the plaintiff's bills of complaint, or for any other reason.

Seventeenth

These defendants further answering say that in such proceedings before said Commission certain protestants appeared in opposition to the rates proposed by the plaintiff company and that the names of such protestants are as follows: City of Charleston, City of Huntington, City of Williamson, Town of Ripley and Town of Ravenswood, all municipal corporations created and existing under the laws of the State of West Virginia, and Manufacturers' Club of Huntington, West Virginia, Dunkirk Window Glass Company, Westvaco Chlorine Products Company, West Virginia Brick Company, Standard Brick & Supply Company, Ward Engineering Works, Kanawha Brick Company, Kanawha Manufacturing Company, Kanawha Ice Company, Diamond Ice & Coal Company, Elite Laundry [fols. 170 & 170½] Company, Superior Laundry Company,

Charleston Laundry Company, Kanawha Woolen Mills Company, Charlton Lumber Company, all being corporations either organized under the laws of the State of West Virginia, or authorized to do business therein.

Defendants further say that said protestants have an interest in this action because of the matters hereinbefore set out, and that they are proper, if not necessary, parties to this action.

Eighteenth

Wherefore, these defendants pray judgment that the complaint of the plaintiff be dismissed with costs to the defendants.

Public Service Commission of West Virginia, Howard B. Lee, Attorney General of the State of West Virginia; Fred M. Livezey, Attorney for Public Service Commission of West Virginia, by Counsel. Fred M. Livezey, H. B. Lee, Solicitors.

[fol. 171] IN UNITED STATES DISTRICT COURT

[Title omitted]

ANSWER OF INTERVENING DEFENDANTS THE CITY OF CHARLESTON, A MUNICIPAL CORPORATION, CITY OF HUNTINGTON, A MUNICIPAL CORPORATION, CITY OF WILLIAMSON, A MUNICIPAL CORPORATION, TOWN OF RIPLEY AND TOWN OF RAVENSWOOD, BOTH MUNICIPAL CORPORATIONS, THE HUNTINGTON MANUFACTURERS CLUB, A CORPORATION, DUNKIRK WINDOW GLASS COMPANY, WESTVACO CHLORINE PRODUCTS COMPANY, WEST VIRGINIA BRICK COMPANY, STANDARD BRICK AND SUP-
[fol. 172] PLY COMPANY, WARD ENGINEERINGS WORKS, KANAWHA BRICK COMPANY, KANAWHA MANUFACTURING COMPANY, KANAWHA ICE COMPANY, DIAMOND ICE AND COAL COMPANY, ELITE LAUNDRY COMPANY, SUPERIOR LAUNDRY COMPANY, CHARLESTON LAUNDRY COMPANY AND KANAWHA WOOLEN MILLS COMPANY, FILED IN THE ABOVE STYLED CAUSE, BY LEAVE OF THE COURT

To the Honorable George W. McClintic, Judge of said Court:

Now come the defendants above named, by special leave of the Court, and for answer to the bill of complaint filed

by the plaintiff herein, without waiving their right to move to dismiss said bill of complaint and to object thereto for insufficiency, say;

That they, and each om them, except The Manufacturers Club of Huntington, are consumers of natural gas furnished by the plaintiff to said defendants in the State of West Virginia and in the Southern District thereof, and are all directly interested in the result of the proceedings mentioned in the bill of complaint as recently pending before the Public Service Commission of West Virginia, as well as the result of this suit in Your Honor's Court, and that the defendants, The City of Charleston, City of Huntington, City of Williamson, Town of Ripley and Town of Revenswood, are each municipal corporations of the State of West Virgina, and as such represent large numbers of citizens of said cities and towns, respectively, who are also consumers of natural gas and are purchasers thereof from the said United Fuel Gas Company within said State and District.

And now, for further answer unto the said bill of complaint filed herein, these defendants would respectfully show:

[fol. 173] First

Defendants believe it is true that the plaintiff, United Fuel Gas Company, is a corporation organized under the laws of the State of West Virginia, and is engaged therein in the production, transmission, distribution and sale of natural gas for light and fuel as alleged in the first paragraph of said bill; and defendants aver that the plaintiff is thereby a public utility company, engaged in the public service, and subject to the laws of the State of West Virginia regulating such utilities.

It is true The Public Service Commission of West Virginia is an official body created by said State and existing by virtue of the act of the legislature thereof, known as chapter 9 of the Acts of said legislature of 1913, and the several amendments thereto; and that said Commission is constituted as in said paragraph set out. It is true that Howard B. Lee is the Attorney General of the State of West Virginia, but defendants are not advised that he is "charged with the duty of enforcing the laws of

said State," but aver that he is designated by law as counsel for the state in all causes pending in any federal court in which the state is interested, as well as in various other cases specified by law. It is also true that Fred M. Livezey is counsel for said Public Service Commission, and that his duties as such are fixed by law.

Second

Defendants say it may be true that the cause attempted to be presented by the plaintiff's bill herein is of a civil nature, in equity, and is brought for the purpose of enjoining the enforcement of an order of the Public Service Commission of West Virginia, entered on the 24th day of March, 1925, which order refused to permit the plaintiff to increase its rates for natural gas service to its customers in the State of West Virginia; but the defendants deny that the plaintiff has any just cause of action arising under the constitution or laws of the United States; [fol. 174] deny that the rates which plaintiff is permitted to charge for such service are confiscatory of its property, or that the said order of the Public Service Commission deprives the plaintiff of property without due process of law, or denies to the plaintiff the equal protection of the law.

Third

Defendants say it is true that prior to the 26th day of April, 1924, certain rates had been fixed by the Public Service Commission of West Virginia, upon application of the plaintiff, which said plaintiff was permitted to charge for natural gas service in said state, as alleged in said bill of complaint; but defendants deny that said rates were inadequate, or failed to yield to the plaintiff a fair return upon its property devoted to such service. It is true that the plaintiff on April 26, 1924, filed with said Commission a schedule of increased rates, providing large increases in said existing rates, which it proposed to charge on and after the 31st day of May, 1924; and that upon the filing thereof the said Commission, pursuant to the provisions of the statutes of said state, suspended the effect of said rates for a limited time, and continued such suspension in force pending an inquiry as to the reason-

ableness of such proposed rates, and that after full hearings said Commission entered the order of March 24, 1925, complained of in the bill, canceling and annulling said proposed rates, on the ground that the same were unjust and unreasonable.

Defendants say that this suit is the latest step in the efforts of the plaintiff to obtain increases of rates for gas furnished to citizens of West Virginia, extending over many years, first upon one ground and then upon another, far in excess of those which it is justly entitled to charge.

The plaintiff engaged in the business of a public utility in 1909, and on May 21, 1917, filed its petition with the Public Service Commission for leave to increase its then rates to certain of its industrial and domestic consumers, for the alleged reason that the then rates did not afford [fol. 175] it an adequate return upon its investment or a return commensurate with the value of the service rendered to its patrons. It asked, among others, increase as follows: City of Huntington, from 15 cents net to 23 cents net for domestic, and a slight increase in gas over 300,000 feet per month for industrial consumers; City of Charleston, increase from 15 cents net to 20 cents net, and a slight increase of about one cent in industrial rates. When this petition was filed, the matters arising under it were set down for hearing on June 27, 1917. Protestants appeared, certain of these defendants, among others, and by protests and answers denied the necessity and propriety of increased rates, and asserted that the applicant was earning a reasonable return upon the fair value of its property used in the public service, and thereafter hearings were held from time to time before the Commission until the 6th day of October, 1917, when the same were concluded. On February 28, 1918, the Commission made its finding fixing the then total present value of the applicant's property as a rate base at $17,750,000, and after apportioning the investment and the operating expenses as among the various divisions of the property and the communities served, permitted the applicant to increase its rates in the City of Huntington for domestic gas two cents, and an increase of one cent at Charleston; made small increases for industrial gas at both places, and allowed certain slight increases in other communities affected.

In this case, known as No. 585, reported in volume 1, of the reports of the Public Service Commission of West Virginia, page 501, the matters of valuation, returns and rates were testified to and considered at great length, the valuation including a consideration of the gas reserves or gas in the ground, as well as the value of the tangible property of the plaintiff, but no effort was made by the plaintiff to affix a value thereto in the manner attempted in the evidence offered by the plaintiff at the hearing before the Commission beginning May 28 and June 30, 1924; that is to say, by asserting the existence in the [fol. 176] ground in the leaseholds of plaintiff of an estimated quantity of gas with an attempt to fix a value thereon.

On December 21, 1918, the plaintiff again filed with said Commission its petition and application for leave to increase its rates for domestic service to its consumers in the cities, towns, and villages in West Virginia served by it, among others, the cities of Charleston, Huntington, and Williamson, and to discontinue its industrial service to all of its consumers at all points in West Virginia. It asked that rates as to these defendants be increased as follows, namely: Charleston, domestic from 16 cents net to 25 cents net; Huntington, from 17 cents net to 30 cents net; Williamson, from 25 cents net to 30 cents net, and increases in other communities. By an amended petition and application filed May 15, 1919, the plaintiff asked that if discontinuance of its industrial rates were refused, the existing rates for industrial services should be increased to proposed rates as set forth in schedule filed, to continue in effect during the six winter months, and twenty-five per cent less than said proposed rates during the six summer months, and that just and reasonable rates should be fixed not only for its domestic gas service, but for its industrial gas service as well. Numerous protests were filed by practically every community affected by said proposed increase in rates, both as to domestic and industrial consumers. Upon motion of applicant, the evidence taken upon the application in Case No. 585 above was read and considered in so far as pertinent, and in addition thereto the applicant offered an inventory and appraisal of its gas properties, including its leaseholds and

the acreage therein, together with evidence as to the value of the gas-producing acreage operated and unoperated, and a value largely in excess of their investment cost was claimed. Evidence was offered as well by the protestants and the Commission on December 19, 1919, made its finding, fixing among others, rates as follows:

City of Charleston, Domestic, 20 cents net; Industrial, first, 150,000 20 cents net, second 150,000 19 cents net, all [fol. 177] over 300,000 15 cents net; City of Huntington, Domestic, 21 cents net; Industrial, first 150,000 21 cents net, second 150,000 18 cents net, all over 300,000 17 cents net; City of Williamson, Industrial, all over 300,000 12 cents net; and allowing certain increases in other communities involved.

The opinion of the Commission appears in Vol. 1 of the Reports of the Public Service Commission of West Virginia, page 651, and as will therefrom appear, the main question then mooted, involved and decided was the fair value of applicant's property for rate-making purposes, and especially what value, if any, should be assigned to applicant's leaseholds of gas-producing acreage. An effort was made by the applicant to have included in the valuation of its property the sum of approximately $31,000,000, in addition to the capitalization theretofore allowed, as representing what was claimed to be the appreciated value of its leaseholds already carried on its books at a valuation of about $6,500,000, which was largely in excess of the actual cost of said leaseholds, this contention by the plaintiff being founded upon what is termed "gas reserves," and upon the assumed and asserted value of which it maintains that the rates at this time in effect are confiscatory. Various other questions were involved, such as whether or not federal income, excess profits and war taxes should be treated as operating expenses, what credit should be made against the operating expense for the value of the use of gas for the manufacture of gasoline, the allocation of investment, earnings and expenses as between applicant's three branches of business—oil, gas, and gasoline—and others; and the Commission, for the purpose of allowing the increases as aforesaid, fixed the fair value of applicant's property at the sum of $30,000,000, and in its

ascertainment of future rates, allowed the applicant an additional earning annually of $1,000,000 that it might have $5,000,000 annually as net earnings for purposes of return, depreciation and amortization.

[fol. 178] No rehearing was asked by the plaintiff, nor did it seek an appeal to the Supreme Court of Appeals of the State, and the rates fixed by the Commission in said Case of 845, decided December 19, 1919, remained in effect until June 29th, 1921. On June 29, 1921, the plaintiff filed its application with the Commission for authority to again increase its rates, averring that notwithstanding the increases theretofore allowed it, those rates did not produce a reasonable return. In its said petition, the plaintiff assigned errors in the findings and conclusions of the Commission in Case No. 845 above, and prayed that they be reconsidered, reversed and set aside, and asked authority to put into effect its proposed changes in rates. The plaintiff in its petition requested in most, if not all cases, that the rates be doubled. On April 28, 1922, the Commission made its finding fixing the then fair value of applicant's property at $30,000,000 plus some net additions to capital made by the applicant since the decision of Case No. 845, and found that the rates asked for were not justified by the evidence, but that in order to supply a lack of adequate revenue amounting to approximately $200,000, the plaintiff should have and was granted an increase of 3 cents per M cubic feet in the last block of certain existing industrial rates. By its finding the Commission required the applicant to report, after six months' trial of the new rates allowed, its income and operating expenses, in order that upon such report any further adjustment in rates might be made which should be warranted by the facts.

No rehearing was applied for or any appeal sought by the plaintiff, and the rates so fixed by the Commission continued in effect until February 20, 1923, when the plaintiff, having theretofore on January 11, 1923, filed its said report as to six months operation, filed its motion in writing in which it asked that said case be set down for further hearing and investigation. The Commission granted said motion and successive hearings were had, at which testimony was offered by the applicant and then by the pro-

[fol. 179] testants, these defendants being among other pro-

testants, and the hearing proceeded with from time to time until the matter was submitted to the Commission, and on August 9, 1923, an opinion was handed down by the Commission authorizing the applicant to increase each of its rates temporarily in West Virginia five cents on each one thousand cubic feet, except at Nitro, prescribing the effective date of the increase for domestic and industrial consumers, requiring the plaintiff to file on or before March 20, 1924, a statement of its operating revenues, expenses and taxes for the period between September 1, 1923, and March 1, 1924, setting forth its revenue derived from gasoline and any changes in its rates to other consumers, and retaining the case upon the docket for the purpose of receiving such statement and taking such action thereon as the Commission may deem proper, and of obtaining further information from which to ascertain the proper depreciation and depletion which the plaintiff was entitled to earn. No rehearing was applied for by the plaintiff, nor any appeal sought by it, but certain of the protestants, and among others these defendants, applied for and obtained an appeal from the order of the Commission made August 9, 1923, to the Supreme Court of Appeals of the State of West Virginia, and at the same time an order suspending the said increased rates, pursuant to the provisions of the statutes of West Virginia, and in said Supreme Court of Appeals such proceedings were had that upon submission of the case on appeal, and on November 27, 1923, said court reversed and set aside the order of the Commission of August 9, 1923, and remanded said proceedings to the Commission for such further investigation and order as might be proper. No application for a rehearing was made by the plaintiff and no application was made by it for appeal, by writ of error, or otherwise to the Supreme Court of the United States from the said decision of November 27, 1923; and the case was remanded to the Public Service Commission of West Virginia and was pending before it when the bulletin was filed by plaintiff on April [fol. 180] 26, 1924, Exhibit B, with plaintiff's bill. Reference is now here made to the orders or findings of said Commission above; namely, in Cases 585, 845, 1251, and 1251 (second hearing), and to the opinion of the Supreme Court of Appeals of West Virginia in the case of The City

of Charleston vs. Public Service Commission of West Virginia, reported in 95 W. Va., page 91.

The Supreme Court of Appeals in its decision suspending and reversing the order of the Commission allowing said increased rate of five cents, reached its finding and reversed said order of the Commission for the reasons, among others, that any appreciated value of leaseholds must be shown by evidence independent of the rates of return or earnings; that proper consideration should be given to accrued depreciation and depletion; that a natural gas utility should not be permitted to sell the use of gas for extraction of gasoline to itself for a private enterprise for less than its fair market value or at prices that could be obtained upon the open market; that plaintiff should not be allowed to sell its gas to its parent companies at less than its fair market value, and where it does so, should be treated by the Commission as receiving a fair market rate for such gas, and for other errors, both of law and fact, committed by the Commission, as set forth in said opinion of the Supreme Court, and said court further found from the record in the case that the plaintiff was receiving an annual return of $554,000 in excess of the net revenue the Commission had found it entitled to earn upon the rate base of $34,000,000 as fixed by the Commission.

Defendants allege that upon motion of plaintiff, the proceeding initiated by its tariff or schedule of rates filed with the Commission on April 26, 1924, designated by said Commission as Case No. 1516, and the former proceeding remanded to the Commission by the order of the Supreme Court of Appeals of the State of November 27, 1923, were consolidated into one proceeding, designated as Case 1516. Defendants allege that after the submission of all plain-[fol. 181] tiff's exhibits and evidence in said hearing before the Commission, and after plaintiff had rested its case, but before the defendants had introduced any evidence, plaintiff on August 4, 1924, filed its bill of complaint in the District Court of the United States for the Southern District of West Virginia, in which it prayed that a temporary restraining order be awarded by said court enjoining and restraining the Commission and each member thereof from proceeding further in the determination of the issues involved in said proceeding before it and from further suspending the said tariffs so filed by said plaintiff, and en-

joining and restraining the Attorney General of the State of West Virginia and the Counsel for the Public Service Commission from interfering with the rates so filed. Defendants allege that the defendants to the bill in this case and others were permitted by said Court to intervene and file their answer in said proceeding, which they accordingly did, and said District Court on September 2, 1924, entered its order refusing the injunction prayed for by the plaintiff. Thereafter, the plaintiff applied to the statutory court of three Judges sitting under section 266 of the Judicial Code. (Comp. Stat. Sec. 1243), for a preliminary injunction, which application, after full hearing and argument, was refused by said court by its order made on the 13th day of September, 1924, upon the ground that the plaintiff had failed to show it was entitled to the relief prayed for.

Fourth

Defendants say it is true that upon the hearing before the Commission commencing May 28, 1924, the plaintiff showed that it held or claimed certain rights in respect to the gas in something over 800,000 acres of land, with producing wells, transmission lines and distributing systems; but defendants deny that the plaintiff showed to said Commission the true value of said properties. It is true the plaintiff ordered an inventory and appraisal of its property made by or under the direction of the firm of Ford, Bacon [fol. 182] & Davis, of New York City, which firm was employed by plaintiff for that purpose; but defendants call for proof of the allegation of the bill as to the methods employed by said firm in making its said appraisal. Defendants say that of the enormous acreage in which the plaintiff claims to hold the "gas rights" as alleged in the bill, according to the testimony of its witnesses only 68,900.72 acres are classed as "operated," and that of the whole, but 136,384 acres are designated as "proven" territory; and they further aver that the appraisal submitted by said firm of Ford, Bacon & Davis as to many items therein is palpably erroneous, unreliable and inaccurate, and especially as to its several efforts to fix a value upon the so-called "gas rights" held by the plaintiff.

Defendants deny the accuracy of the allegations in the bill as to the amounts found in said appraisal of Ford,

Bacon & Davis as the reproduction cost new of said properties, and of the same less observed deterioration, and defendants deny the implication of plaintiff's bill that the terms "reproduction cost new less observed deterioration" and "present value" are synonymous, and defendants aver that the values found in the said appraisal are as follows: reproduction cost new, $73,803,601; and not $74,493,601; and reproduction cost new less observed deterioration (which is not "present value" as alleged in plaintiff's bill) $65,080,496 and not $66,070,496. The difference between the amounts stated in the plaintiff's bill and in the appraisals made by Uebelacker is $990,000, the allowance for working capital. The witness Uebelacker fixed $36,449,176 as the value of plaintiff's gas rights, and $37,054,425 as the value of its physical properties if the same had been entirely new, and $28,631,320 as the reproduction new value of the physical property, less observed deterioration, which last amount added to the appraisal value of the gas rights makes $65,080,496.

As to the averment of plaintiff in its bill that the witnesses for the protestants and for the plaintiff were in substantial accord as to the items of property included in the [fol. 183] inventories of Ford, Bacon & Davis, defendants assume that said averment is intended to be limited to items of the physical properties of plaintiff. If so, defendants say that the matter of the substantial accord of such witnesses is of no possible relevancy to plaintiff's case now, inasmuch as the defendant Public Service Commission, as hereinbefore shown, accepted the figures of plaintiff's witnesses as to the reproduction cost new of the physical plant, as well as the estimate of observed deterioration presented by said witnesses. Defendants admit and allege that there were differences of opinion between the witnesses for plaintiff and for the protestants as to the measure of existing depreciation and as to the allowance for overhead charges, but defendants call attention again that these questions were all resolved in plaintiff's favor by said Public Service Commission, when it accepted said valuation of the physical plant in its observed depreciated condition. These defendants deny that the testimony of said engineers as to the reproduction cost new, less depreciation, of plaintiff's physical property, is the only measure, or a proper measure,

of the present fair value thereof; but aver that the same is proper evidence to be considered in arriving at such present fair value for rate-making purposes; and the defendants aver that the Commission did in fact give due and ample consideration to said evidence in arriving at the decision complained of; that a great deal of additional evidence of said such present fair value was before the Commission, including the proper elements of estimated historical cost as submitted by witness Uebelacker, and book cost of said physical properties (shown to be $25,480,878.33 and $19,945,582.16, respectively); and that all of said evidence was likewise entitled to consideration and to be given its due weight in fixing the present fair value of said physical plant, and the defendants aver that the Commission gave consideration to the use to which the plaintiff's property is put, the book cost, the estimated historical cost, the reproduction cost new less depreciation estimates, and made [fol. 184] a careful and painstaking examination of the record, and found that the physical property of the company had a present fair value as of December 31, 1923, of $25,000,000, to which it added the sum of $648,457.72 for completed construction to November 30, 1924.

Defendants deny that their engineer or any witness was employed by them to overthrow the testimony of Ford, Bacon & Davis or any witness introduced by plaintiff. On the contrary, defendants allege that the sole object of the witnesses for the defendants in this connection was to determine the present fair value of plaintiff's property used and useful in the public service as of December 31, 1923, and to point out various errors and inconsistencies in the evidence of plaintiff's witnesses, which, as appears from the record of the hearing before said Commission, was accomplished.

Fifth

Defendants say it is true that the plaintiff company in the proceedings before said Commission offered testimony by its witness Ralph E. Davis, attempting to show the amount of gas which might be expected to be produced from the lands held under lease and otherwise by the plaintiff and the estimated value thereof, but the defendants say that said testimony was so speculative, indefinite and un-

certain as to be of no value whatever in arriving at the fair value of the rights of the company with respect to such gas, and they also aver that such testimony was wholly immaterial and improper in said proceeding.

It is also true that the said firm of Ford, Bacon & Davis undertook to ascertain the value of said gas, basing their estimates upon information furnished by said Davis; and defendants aver that such purported evidence is likewise speculative, indefinite and uncertain, and also is improper and immaterial for the reason that it disregards the fact that the gas in question is not owned by the plaintiff, as well as for other reasons.

The plaintiff also offered the testimony of a number of [fol. 185] individuals, as stated in the bill, with reference to the so-called gas rights of the plaintiff, but the defendants say that such evidence was likewise incompetent, irrelevant and immaterial and of no probative value on the issues involved. The defendants deny that the evidence of said witnesses was not controverted by other evidence in the case; on the contrary, the defendants say that there was ample evidence adduced before the Commission showing the book cost of the lands held by the plaintiff in fee and under lease, the cost to the plaintiff of renewing, securing and carrying the same and various other matters affecting the value of the said properties; and defendants further aver that the improper, indefinite and speculative character of all of the testimony offered by the plaintiff as to the value of the gas rights claimed by it rendered the same incompetent to support any such finding as was asked by the plaintiff, and made extended evidence in contradiction manifestly unnecessary. Defendants deny the allegation of the bill that the evidence of plaintiff justified a finding of a value of at least $30,000,000 for said gas rights, or any finding in excess of the sum found by the Commission. Defendants say that they have not seen the transcript of the testimony marked "Exhibit Transcript" purported to be filed with plaintiff's bill. Defendants herewith reserve the right to file the record of all testimony taken before said Commission in said hearing, together with all exhibits, which may not be included in said Exhibit Transcript in plaintiff's bill.

Sixth

Defendants admit the allegations of paragraph "Sixth" of said bill, and refer to the order and opinions of the said Public Service Commission therein referred to for a correct statement of the findings of said Commission.

Seventh

In paragraph "Seventh" of said bill, the plaintiff proceeds to set out certain interpretations and constructions [fol. 186] of the decision of the Public Service Commission complained of, which defendants believe to be so incorrect and misleading as to render said paragraph entirely unreliable as an aid to the understanding of said decision, or as throwing light upon the issues involved in this case.

It is true the said Commission in certain of its findings adopted the views of the witness Uebelacker as against criticisms of the same advanced by protestants' witness Hagenah, but for a more accurate statement of such findings the defendants refer to the opinion of the Commission filed herein.

It is true the Commission fixed the going value of plaintiff's property at $3,000,000, and allowed it working capital in the amount of $990,000, as to which last amount the witnesses were in accord. Defendants deny that "this would make a total present fair value of the physical property, including going concern value and working capital, of $32,621,320." It is apparent that this amount is the sum obtained by adding the allowance for working capital, $990,000, and the going concern value, $3,000,000, to $28,631,320, the reproduction cost new less observed deterioration of the physical plant. In this allegation, plaintiff continues to confuse "present fair value" and "reproduction cost new less depreciation." It is true the Commission eliminated the sum of $254,332, as the cost of certain "dry holes" drilled by plaintiff from the valuation fixed by it, which the defendants allege was properly eliminated from the rate base. Defendants say that it is true that the Commission found the present fair value of plaintiff's physical property to be $25,000,000, but defendants deny that it arrived at the sum "because of the fact * * * that this prop-

erty did not cost that much" ($32,366,888), as alleged in said bill, and deny the allegation that "it is not apparent from the opinion of Commissioner Stathers how he arrives at this $25,000,000." On the contrary, defendants say it is apparent that throughout said paragraph "seventh" the plaintiff seeks to confuse the testimony of [fol. 187] "reproduction cost new less depreciation" with present fair value, when as a matter of fact such reproduction cost is merely one element to be considered in arriving at the ultimate fact, namely, present fair value, which is to be found by the Commission. In addition thereto, the Commission was bound to consider and did consider, other elements, including estimated historical cost of $25,480,378.33, as testified by plaintiff's witness Uebelacker, and the book cost of $19,945,582.16, as to the correctness of which there was no controversy.

It is true that of the alleged capital expenditures of $2,000,676.57 made subsequent to December 31, 1923, the Commission allowed but $648,457.72 (instead of $666,639.47) as part of the value of the physical property, for the reason, as set forth in the opinion of the Commission, that no more than this amount represented construction completed and in the service of the public; and defendants say that it is not clear from the evidence in the case that even this amount was in actual use, and that the whole evidence as to such subsequent expenditures was indefinite and inconclusive.

Defendants deny that in fixing the present fair value of the plaintiff's physical plant at the sum of $25,648,457.72, the Commission places such value at $9,000,000 less than the actual present fair value thereof, and say that such allegation could only be made through a confusion and juggling of figures such as above pointed out.

Defendants allege that the following statement tabulated from the figures contained in Paragraph Seventh of the plaintiff's bill shows plaintiff's method of arriving at its erroneous conclusion that the said Commission fixed the value of plaintiff's physical property at $9,000,000 less than its actual present fair value:

Reproduction Cost new of physical property less observed deterioration, as determined by Uebelacker	$28,631,320.00
Working capital	990,000.00
[fol. 188] Going value	3,000,000.00
Alleged additional capital expenditures since December 31, 1923	2,000,676.57
Total	$34,621,996.57
Deducting commission's finding as to present fair value of physical plant, omitting working capital and going value	25,648,457.72
	$8,973,538.85

The facts as to the findings of value going into the rate base as found by the Commission and set forth in the opinion of Chairman Stathers are shown by the following table:

Fair value of physical plant, December 31, 1923	$25,000,000.00
Additions subsequent to December 31, 1923	648,457.72
Present fair value of physical plant	25,648,457.72
Allowance for working capital	990,000.00
Going concern value	3,000,000.00
Present fair value of plaintiff's physical plant, including working capital and going value	29,638,457.72
Value of gas rights and leaseholds, (see next paragraph)	6,361,511.42
Total, rate base, or present fair value	$35,999,969.14

The defendants further deny that said finding constitutes a taking of the plaintiff's property without just compensation in violation of the Fourteenth Amendment to the Constitution of the United States.

Eighth

[fol. 189] In answer to paragraph "eighth" of plaintiff's bill, defendants say: That the Commission by its opinion and decision found upon all the evidence before it that the fair value of certain leaseholds and natural gas rights held by the plaintiff was the sum of $6,361,511.42; but defendants deny that this is the sum which was actually paid for such leases by the plaintiff or its predecessors at any time, and aver that the aforesaid sum, while carried upon plaintiff's books as the cost of such leaseholds, in truth and in fact represented a very considerable enhancement over such actual cost. Defendants aver that the actual cost of the leases now held by the plaintiff would not exceed the sum of $3,000,000, and that there was evidence adduced before the Commission by the defendants showing the actual amounts now being paid in the gas fields of the plaintiff for such leases, which amounts were shown to be decidedly less than the value found by the Commission. Defendants aver that the plaintiff offered no competent evidence before said Commission as to the present fair value of such leaseholds, as is pointed out in the opinion filed by the Commission; and defendants deny that the plaintiff has paid out the sum of $8,817,909.96 as rentals or carrying charges upon the leases held by it, if by such allegation the plaintiff means to imply that it has invested such amount of its own capital, the facts being that such carrying charges upon leaseholds have at all times been treated as operating charges and collected annually from the consumers of gas sold by the plaintiff, over and above a fair rate of return upon the value of its property devoted to public use, and for such payment defendants contend said consumers should be given due credit in the fixing of rates, and the same should not be treated as an added investment by the owners of the utility.

Defendants deny emphatically that the plaintiff under any circumstances should be allowed a return of from 25% to 100% per annum upon the amount of its invest- [fol. 190] ment in gas properties when devoted to the public service; and while defendants admit that an investor in oil or gas properties is entitled to such return as may accrue to him from the development of such properties,

when not devoted to public use, yet the defendants do not admit, but deny, that it is usual or ordinary for such investors to receive annual returns of from 25% to 100% on their investments, even when the best of judgment is used in acquiring and developing such properties. Defendants allege, however, that the record of the hearing amply shows that plaintiff, as a matter of fact, has been rewarded for its business judgment and that its adjusted net earnings from 1909 to 1924, inclusive, are approximately $60,000,000 upon a book cost varying from $10,000,000 in 1909 to not more than $25,000,000, in 1924. Defendants further say that all such allegations are immaterial as applied to a public utility operating under laws which impose upon it, in return for certain privileges and immunities, the duty of furnishing service to the public at a fair price and for a reasonable return upon the value of its property.

Defendants further say that it was shown by the testimony adduced before the said Commission that the plaintiff company in the year 1909 acquired 21,519.99 acres of operated gas territory, and 1,034,923.59 acres of unoperated territory, from certain other corporations then owning and operating the same; that it subsequently acquired more than 1,000,000 acres of additional territory, and sold or abandoned approximately 1,300,000 acres, and that it drilled and developed certain additional acreage until on December 31, 1923, it owned and operated 68,900.72 acres of operated territory, and 746,009.96 acres of unoperated territory, from which it will appear that the investment of the plaintiff in said property in 1909 was in no sense a hazardous venture into wholly unproven gas fields for which the plaintiff should be granted the extortionate profits suggested in the bill, but the defendants say that in [fol. 191] fact the said plaintiff in the year 1910 sold and marketed from said territory a total of nineteen billion cubic feet of gas, as against total sales in 1923 of forty-six billion cubic feet.

The defendants further say that the territory of approximately 1,000,000 acres acquired by the plaintiff since 1909 has cost said plaintiff about $1.00 per acre, and that the prices actually paid by the company for such leases in its best producing fields during the years 1922 to 1924 averaged

$4.00 per acre. They, therefore, aver that it is only duplicating and adding the cost of new leases to the book cost of old leases which have expired, and by arbitrary charges by way of "appraisal" that the plaintiff was enabled to build up the so-called book cost of $6,361,511.42 which the Commission allowed in said case as the present fair value of said leaseholds, and that of said amount there is an appreciation of value of $5,000,000 over the actual cost of said leaseholds; and defendants further aver that in fact no such amount can be shown to represent actual investment in such leaseholds, or to represent the reproduction cost of the same at this time, and defendants say that, as above shown, under the evidence before the Commission said leaseholds could be reproduced at this time for not to exceed the sum of $3,000,000. Defendants say that the plaintiff having been permitted to impose the burdens of said leases upon its customers by the collection of all carrying charges and expenses as operating costs, it now apparently seeks to capitalize for its own profit merely the beneficial provisions and elements of such leases at a fanciful and artificial value, which if permitted would impose a double burden upon the consumers without any corresponding investment on the part of the plaintiff.

Defendants deny that the evidence offered before the Commission by the plaintiff as to the present fair value of its gas rights was competent or proper, and deny the allegations that the same was not in any way disputed or controverted, and deny that on the basis of the evidence [fol. 192] before the Commission the present fair value of such gas rights is the sum of $30,000,000.00, or any larger sum than the amount found by the Commission as aforesaid; and the defendants further aver that such evidence in fact was insufficient to justify as large an amount as that found by the Commission. Defendants deny that the action of the Commission in fixing the value of such gas rights and leaseholds, and in denying the plaintiff the right to charge a rate which would produce a return upon an additional $25,000,000 or any other sum on account of such leaseholds, operates to deprive the plaintiff of any property, or that such action is in violation of the Fourteenth Amendment to the Constitution of the United States.

The defendants here call the Court's attention to the fact that neither in the bill herein, nor in the evidence and pro-

ceedings before the Commission, has the plaintiff offered to show the nature and extent of the so-called "gas rights" claimed or held by it; that only a very small part of said total acreage consists of fee ownership of said natural gas, but that by far the greater part consists of certain leasehold rights with respect to the production of gas from said lands, the exact nature of which is not shown; but from general knowledge of such leases the defendants say that they are of indefinite and uncertain value, depending upon a great variety of conditions and circumstances, that the rights held thereunder are usually subject to loss by forfeiture, surrender and other contingencies, and that such leases impose upon the lessee certain burdens and obligations in addition to the rights granted thereby. Defendants aver that the plaintiff did not produce evidence before said Commission as to the value of said leases, as such, nor as to the exact nature and extent of the rights claimed by it thereunder.

Ninth

Defendants say that the actual amount found by the Commission as the present fair value of plaintiff's property, [fol. 193] upon which it was entitled to earn "operating expenses and taxes, an amount sufficient to take care of deterioration or depreciation, a sufficient sum to amortize or retire over the remaining period of its life the unamortized portion of its property, and a fair return," was the sum of $35,999,969.14; and defendants deny that the action of the Commission in fixing such value, and denying to plaintiff the right to charge a rate which would yield a return upon the enormous values contended for by it, amounts to taking the plaintiff's property for public use without compensation to any extent whatever, or that the same is in violation of the Fourteenth Amendment to the Constitution of the United States, or any other part thereof. Defendants say that said Commission, having found the fair value aforesaid, proceeded to permit the plaintiff to continue to charge rates, theretofore in effect, which in fact yield a fair return upon a much larger sum than the rate base so found; wherefore, the defendants say that the Commission would have been fully justified in ordering a considerable reduction in the rates being charged by the plaintiff.

Tenth

It is true that the said Commission fixed the fair value of plaintiff's property upon which it was entitled to a return, in the aggregate, at $35,999,969.14, and adjudged that it was entitled to a return of 8% upon this amount, over and above operating expenses and taxes, and that it was also entitled to earn 1½% upon the book cost of its properties for the purpose of a depreciation fund; and the Commission further allowed the plaintiff to earn 4.15% upon the present fair value of its properties as an amortization fund, for the purpose of returning to the plaintiff the value of its said properties at the end of their useful life; and it is true that said Commission found that approximately $20,000,000 was the portion of said present fair value which had not already been amortized and returned to the plaintiff as shown by the opinion of the Commission filed herein, [fol. 194] and that the said 4.15% would fully retire said unamortized portion within the life of the property. Defendants aver that the Commission found the fact to be that the plaintiff had actually earned and had returned to it during the years 1916 to 1923, under rates prescribed by the Commission, for the purpose of amortization of investment alone, the sum of $14,028,737.03, which sum did not include any amortization earned and applied by the company to its uses prior to 1916, nor any excess earnings which accrued during said period of 1916 to 1923, over and above the legitimate earnings to which it was entitled, and that the Commission thereupon deducted the said sum of $14,028,737.03 from the present fair value and found that the said sum of approximately $20,000,000(?) represented the amount which the plaintiff was entitled to have returned to it in the future by way of return of capital invested; but defendants deny that such action results in permitting the public to take the plaintiff's property and use it by paying only $20,000,000 therefor, for the reason that more than $14,000,000 of the value thereof has already been returned to the plaintiff.

These defendants contended before the Commission, and they now believe and aver that the true purpose of an amortization fund is to return to the investor in the natural gas business the full amount of its investment at the ter-

mination of the useful life of the utility, and that it is improper to use such fund as a means of profit to such investor in addition to the fair return permitted upon the value of its property by law; they, therefore, aver that the Commission erred in its said decision in holding that the plaintiff was entitled to a return of capital by way of amortization in excess of the amount of its investment, and say that the plaintiff should have been held entitled only to amortize the amount of the book cost of its several properties, a very large part of which defendants aver has already been amortized; and defendants deny that the plaintiff upon any [fol. 195] theory should be permitted to amortize an amount in excess of the present fair value of its property, as adjudged by the Commission. Defendants, therefore, aver that the correct principle is that expressed by Commissioner Divine, namely, that if it is held that the rate base is the amount to be amortized, then the consumers are not only paying a return upon a value far in excess of the amount actually invested, but they are required to pay to the owners of the company for amortization millions of dollars in excess of what has been actually paid out by them. Defendants deny that the valuation claimed by the plaintiff for its physical property is practically $9,000,000 less than said property would cost new, and that the gas already taken from plaintiff's field would make up the balance of the amortization fund already earned, and deny that it was for the purpose of taking care of said sums that the amortization fund was created, and further deny that to deduct the accrued amortization from the present fair value is to take it off twice. Defendants further deny that the action of the Commission as to amortization, as above set out, deprives the plaintiff of its property without compensation or is an appropriation thereof to the public use without compensation, in violation of the Fourteenth Amendment to the Constitution of the United States; and deny that it would take practically 8% to amortize the full present fair value of plaintiff's property within the probable life thereof, or that such rate has been allowed for the purpose of amortization heretofore. The defendants say that the plaintiff has heretofore been allowed the following rates by the Commission, to cover both amortization and depreciation: 1916 to 1918, six per cent; 1919 to 1922,

eight and six tenths per cent; and 1923 to date, eight per cent.

Defendants allege that as a result of said allowances by the Commission there accrued to the plaintiff for purposes of amortization during the years 1916 to 1923, inclusive, the sum of $14,028,737.03, and defendants allege that while [fol. 196] said sum was the total amount applied by the Commission for all accrued amortization, yet the Commission clearly indicated, and the fact is, that an additional sum of at least $8,639,590.81 in excess of the sums necessary to provide a fair return to the plaintiff, and to pay operating expenses, was earned by plaintiff during the years 1909 to 1916, when plaintiff was not subjected to public service regulation, which last mentioned amount in right and in law should be applied to plaintiff's accrued amortization account, and which would reduce accordingly the amount which these defendants and other present gas consumers should be charged for amortization allowances.

Defendants further say that in the foregoing calculations they have taken no account of the excessive earnings of plaintiff during the period 1916 to 1923, over and above a proper amount for fair return and all allowances for amortization, depreciation, operating expenses and other proper allowances as authorized by the Commission during said period. These excess earnings defendants allege are not less than $11,268,845.75, and constitute a proper addition to plaintiff's accrued amortization account. Defendants allege, therefore, that even assuming it to be correct that amortization is to be computed on the basis of value rather than investment, plaintiff's entire properties are substantially amortized.

Eleventh

Defendants say it is true that in determining whether plaintiff was entitled to an increase in rates, the Commission proceeded to ascertain the total income of the plaintiff from all sources, and having ascertained the same it found that such total income was producing a sufficient return upon the present fair value of plaintiff's property as found by it; and defendants deny that the Commission in so doing failed to reach a just conclusion. It is true that a large part of plaintiff's gas is sold in this state to

persons other than retail consumers thereof in this state, but defendants deny that a large part thereof is sold at a [fol. 197] higher rate than is received from the public service consumer in West Virginia. Defendants aver that plaintiff's sales to public service consumers in other states are small. Defendants say that the evidence before the Commission demonstrated that the plaintiff is receiving more than a fair and just return upon the portion of its gas which is sold to consumers in this state, regardless of what may be received for the remainder thereof sold in other states, and that in adjusting the total revenues of the company, as the Commission did, to compensate it for large quantities of gas transferred by the plaintiff to its parent companies at nominal prices, it is only fair, and it has been so held in this case (City of Charleston v. Public Service Commission, 95 W. Va. 91, syl. pt. 8), to require said gas to be accounted for at its fair market value, which said Commission found to be $2,143,661.46 in excess of the amount actually charged the parent companies in the year 1923 for gas taken by them. Defendants aver that it appeared in this cause that the total cost of distributing such gas to local consumers thereof was a maximum of 4.5 cents per M cubic feet, instead of seven cents, as alleged in said bill, the actual cost to the company being 3.71 as shown by its books.

Defendants say that the illustration and argument attempted to be made in paragraph eleven of plaintiff's bill is inaccurate and leads to improper results, for the following reasons: First, that the cost of distribution of gas to the public service consumers is not seven cents, as therein stated, but a maximum of 4.5 cents per thousand cubic feet; second, that said illustration takes no account of the revenues which are derived from the gasoline business of the plaintiff and properly credited to operating expense; and third, that certain other adjustments are overlooked, such as expenses properly chargeable to oil department, and other expenses mentioned in the opinion of the Commission. The credits which should be made to operating expenses under "second" and "third" above amount to more than two cents per M cubic feet. Defend- [fol. 198] ants aver that if the said illustration be properly worked out, using the proper data, it will be found that "the average rate for the public service consumers in West

Virginia" referred to in said illustration should be 19 cents instead of 23½ cents. Defendants aver that said rate as computed in plaintiff's illustration is less than the average rate paid by said public service consumers in West Virginia, which is 20.27 cents per M cubic feet; in other words, the evidence establishes that the public service consumers in West Virginia are actually paying a higher rate than would result under plaintiff's illustration.

It is true that the Commission added to the actual receipts of the plaintiff from gas sales the difference between the amounts actually received by it from sales to its parent companies and the amounts which it should properly have paid therefor, and also certain amounts it received from the sale of gasoline made from its gas properly creditable to operating expenses, in order to arrive at the proper gross income with which plaintiff is chargeable. Defendants are not advised as to whether the Commission reduced the plaintiff's income in any amount for alleged excess prices received from either wholesale customers or others outside the state, or whether the Commission considered any additional income taxes which might have been properly chargeable to the company had it received such additional income; but these defendants deny the validity of such proposed adjustments, and say that in any event the amounts involved therein would be inconsiderable and insufficient to effect the ultimate results found by the Commission, or to change the rates established, which the defendants aver are still much higher than the facts in the case warrant.

Defendants specifically deny that the holding of the Commission herein that the plaintiff is now receiving from the public service consumers in West Virginia a fair return upon the value of its property devoted to the public service in said state operates to deprive said plaintiff of its property without compensation, or that the same is in [fol. 129] violation of the Fourteenth Amendment to the Constitution of the United States.

Twelfth

It is true that the Commission, in arriving at its conclusions, found that the plaintiff justly should receive from the Virginian Gasoline & Oil Company, one half of the net

profits arising from the manufacture of gasoline by that company from the gas owned by the plaintiff; which finding the defendants say in correct and just, and amply justified by the facts and by the evidence adduced before the Commission. Such finding is in accordance with the holdings of said Commission, and of the Supreme Court of Appeals of the State of West Virginia, with reference to the plaintiff's business ever since the manufacture of gasoline from natural gas was commenced. It is true that the plaintiff has recently transferred its gasoline plants and its oil properties to said Virginian Gasoline & Oil Company, together with the privilege of extracting the gasoline from the natural gas produced and handled by the plaintiff, for which privilege a royalty of one-eighth of the gross amount received by the grantee company for such gasoline was purported to be reserved by contract; but defendants say that such royalty does not represent a fair compensation for such privilege, and that the said Virginian Gasoline & Oil Company is an associated and allied corporation of the plaintiff, all its stock being held by the stockholders of the plaintiff and in like proportions; and that it would be highly inequitable to permit a company engaged in the public service to make a sale of such a valuable asset to itself at a grossly inadequate price, fixed by itself, to the detriment of the public service customers of the utility, as is sought to be done in this case; and for these and other reasons the Commission rightly found that such purported reservation of one-eighth royalty was not fair to the consumers of the plaintiff, and not binding upon the Commission, but by reason of the evidence as to the value [fol. 200] of such gasoline privilege fully adduced before the Commission upon said hearings, it did find and so adjudged that the plaintiff should account to its public service consumers for a fair compensation which was fixed at one-half of the net profits arising from the manufacture of such gasoline, as aforesaid. Defendants say that said finding is eminently fair and just to the plaintiff and amply justified by the facts and evidence; and that such holding does not have the effect of relieving the public service consumers from the payment of a fair return to the plaintiff for the gas furnished to them, as alleged in the bill; and defendants allege that as to the right of defendants and other con-

sumers of plaintiff to compel plaintiff to account to them in the rates charged them, for one-half the net profits of the gasoline extracted by said Virginian Gasoline & Oil Company, despite plaintiff's alleged sale of said gasoline properties to said Virginian Gasoline & Oil Company, that question has been settled by the decision of the Supreme Court of Appeals of West Virginia in this same case, and plaintiff cannot now reopen the matter, especially in view of plaintiff's failure to appeal from or take any other legal exception to said decision. Defendants, therefore, deny that by such holding the plaintiff is deprived of its property without just compensation, in violation of the Fourteenth Amendment to the Constitution of the United States.

Thirteenth

The defendants believe it is true in the main that the business of the plaintiff has been conducted efficiently and economically, but they say that in at least two respects such allegation is not true, namely, that the plaintiff has for many years spent, and apparently is still spending, a large part of its income, approximately several hundred thousand dollars, at the expense of its consumers, in litigation having for its object the increasing of rates to said consumers; and that it has also spent large and unjustifiable amounts in newspaper advertising designed to ally [fol. 201] any opposition on the part of the public to such exorbitant increases in rates; the expense of all of which voluminous advertising, and propaganda, amounting to approximately fifty thousand dollars annually, is caused to be borne by the plaintiff's consumers of gas.

Fourteenth

Defendants allege that an additional complete refutation of plaintiff's averment that it has been denied a fair return upon the value of its property devoted to public use, consists of a review of the vast earnings of plaintiff since its organization in 1909. Defendants allege that plaintiff's original and sole investment of capital, aside from earnings and numerous reappraisals of its properties, was not more than $4,000,000. Upon this investment its net earnings to December 31, 1923, aggregated the enormous sum of $46,

087,749.11, and adding thereto the adjusted profits accruing to the stockholders of the plaintiff through preferential rates to its affiliated companies; such net profits amount to the sum of $53,340,656.21 and defendants aver that to date such profits aggregate more than $60,000,000. Plaintiff's cash dividends alone from 1916 to 1924, inclusive, exceed $27,000,000. Defendants aver that the figures so set out are clearly established by the books of the company and the evidence herein.

Fifteenth

The defendants say it is true that under the provisions of the Act of the Legislature of West Virginia creating the Public Service Commission, any person violating the provisions thereof, or a valid order of said Commission, is subject to certain penalties therein enumerated, but the defendants deny that such penalties are in any wise unjust or unreasonable; and they specifically deny that the plaintiff is prevented from putting into effect any rate which would afford to it reasonable compensation for the service rendered to its patrons, without being made subject to said fines and penalties; and defendants say that under said Act [fol. 202] it is the duty of said Commission to determine and prescribe just and reasonable rates to be charged by the plaintiff for natural gas service, and it is the duty of the plaintiff to accept such rates and render service therefor.

The defendants admit that the said Howard B. Lee, Attorney General, and Fred M. Livezey, Counsel for the Public Service Commission, are charged with the duty of enforcing the provisions of said Act, and the defendants have no doubt they would do so in all proper cases.

Sixteenth

The defendants deny that the plaintiff is prevented and intimidated from putting into effect a schedule of reasonable rates for natural gas because of the alleged excessive and severe penalties of the statutes of West Virginia aforesaid, or because of the order entered by said Commission as aforesaid; and deny that because of the said statutory penalties and acts of the Commission the plaintiff is forced

or caused to abandon any of its legal rights, and that plaintiff is thereby deprived of property without due process of law or compelled to transport and deliver gas to its consumers for less than the actual cost thereof after allowing a sum sufficient to pay for the gas used and for the amortization of its plant. And the defendants aver that the rates proposed by the plaintiff to be put into effect, as shown by its schedule filed before said Commission of April 26, 1924, and now asked to be put into effect by the injunction of this Court, are unreasonable and grossly unjust to these defendants and the other consumers of natural gas furnished by the plaintiff; and that they are approximately double the highest rates heretofore established in any of the numerous proceedings in which the plaintiff has sought increased rates before said Commission, as shown in the record; and the defendants aver that such proposed rates are without evidence to sustain them, are unreasonable, unfair and grossly excessive.

And the defendants deny that the said order of the Pub- [fol 203] lic Service Commission entered on the 24th day of March, 1925, is void or invalid for any reason set out in said bill of complaint, or for any reason whatsoever; and deny that this Court should enjoin the enforcement thereof, or by injunction permit the plaintiff to put into effect the increased schedule of rates proposed by it; and deny that this Court should make any inquiry or finding as to a just and reasonable rate to be charged by said plaintiff, or that this Court has any power to fix rates to be charged by the plaintiff for natural gas service; and deny that a temporary restraining order should be issued herein as prayed for.

And now having fully answered, these defendants pray that the plaintiff's said bill of complaint be dismissed, the injunction and temporary restraining order prayed for refused, and that they be hence dismissed with their reasonable costs.

The City of Charleston, City of Huntington, City of Williamson, Town of Ripley, Town of Ravenswood, The Manufactu-ers Club of Huntington, Dunkirk Window Glass Company, Westvaco Chlorine Products Co., West Virginia Brick Company, Standard Brick & Supply Company, Ward Engineering Works, Kanawha Brick Company, Kanawha

Manufacturing Company, Kanawha Ice Company, Diamond Ice & Coal Company, Elite Laundry Company, Superior Laundry Company, Charleston Laundry Company, Kanawha Woolen Mills Com-
[fol. 204] pany, by Counsel. H. D. Rummel, A. G. Stone, Donald O. Blagg, for the City of Charleston. C. W. Strickling, Paul W. Scott, for the City of Huntington. Geo. S. Wallace, for the Manufacturers Club of Huntington. Harry Scherr, Price, Smith & Spilman, for City of Williamson. R. S. Spilman, Retail Consumers of Charleston. T. J. Sayre, F. B. Morgan, for Towns of Ripley and Ravenswood.

[fol. 205] In United States District Court

[Title omitted]

Journal Entries of Trial

Motion for Temporary Restraining Order—Apr. 17, 1925

This day came the plaintiff, United Fuel Gas Company, by Harold A. Ritz, its counsel, and shows to the court that the summons in the above entitled cause has been duly served upon all of the defendants named therein, and that a copy of said summons was also served upon the Governor of the State of West Virginia, and further, that a copy of the order entered herein on the 2nd day of April, 1925, requiring said defendants to show cause why a temporary restraining order should not be granted, has also been served upon all of said defendants, as well as upon the Governor of the State of West Virginia, and moved the court to grant to it a temporary restraining order herein in accordance with the prayer of the bill.

Order Filing Answer and Motion to Dismiss—April 17, 1925

Thereupon came the defendants Birk S. Stathers, Ernest D. Lewis and James J. Divine, persons constituting The Public Service Commission of West Virginia, Howard B.

Lee, Attorney General of the State of West Virginia, and Fred M. Livezey, Counsel for said Public Service Commission of West Virginia, and tendered and asked leave to file their motion to dismiss this suit for reasons stated in said motion in writing, which leave is granted, and said motion is accordingly filed. Thereupon the said defendants tendered and asked leave to file their answer herein, which leave is granted, and said answer is accordingly filed.

ORDER GRANTING LEAVE TO INTERVENE AND FILING SEPARATE ANSWER—April 17, 1925

Thereupon came the City of Charleston, a municipal corporation, by H. D. Rummel, A. G. Stone and Donald O. Blagg, its attorneys; the City of Huntington, a municipal [fol. 206] corporation, by C. W. Strickling and Paul W. Scott, its attorneys; The Manufacturers Club of Huntington, a corporation, by George S. Wallace, its attorney; the City of Williamson, a municipal corporation, by Harry C. Sherr and Price, Smith & Spilman, its attorneys; the towns of Ripley and Ravenswood, each municipal corporations, by T. J. Sayre and F. B. Morgan, their attorneys; Dunkirk Window Glass Company, a corporation, Westvaco Chlorine Products Company, a corporation, West Virginia Brick Company, a corporation, Standard Brick & Supply Company, a corporation, Ward Engineering Works, a corporation, Kanawha Brick Company, a corporation, Kanawha Manufacturing Company, a corporation, Kanawha Ice Company, a corporation, Diamond Ice & Coal Company, a corporation, Elite Laundry Company, a corporation, Superior Laundry Company, a corporation, Charleston Laundry Company, a corporation, and Kanawha Woolen Mills Company, a corporation, by R. S. Spilman, their attorney, and asked leave to file their petition asking to become defendants to this suit, to the filing of which there is no objection, and said leave is accordingly granted and said parties are allowed to intervene in this suit and make defense to the same. And thereupon said parties, by their attorneys as aforesaid, tendered and asked leave to file their joint and separate answer to the bill of complaint herein, which leave is granted, and said answer is accordingly filed.

STIPULATION RE EVIDENCE AND EXHIBITS—Apr. 17, 1925

Thereupon the plaintiff and the defendants and the intervenors herein, by their counsel, agree that the evidence taken before the Public Service Commission herein may be introduced upon the motion for a temporary restraining order now made, to have the same effect as though the witnesses giving said testimony were personally present and testified before the court, and that any exhibits or papers or documents used by said witnesses may be offered with like effect. Thereupon the plaintiff offered, in support of its motion for a temporary restraining order, a transcript of the testimony taken before said Public Service Commission of all of the witnesses introduced upon its behalf, together with the exhibits filed with the testimony of its wit- [fol. 207] nesses, to have the effect provided by the above stipulation. And thereupon the defendants and intervenors asked that all of the testimony exhibits and reports offered on behalf of both sides upon said hearing before said Public Service Commission, be considered as introduced upon said motion; and there being no objection thereto, the said motion was fully heard upon the full transcript of all of the testimony taken before said Public Service Commission, to have the same effect as though the witnesses were present and testified before the court, as well as upon all of the exhibits filed with their testimony.

And the court not being advised of its judgment in the premises, takes time to consider thereof.

[fol. 208 & 208½] [Title omitted]

ORDER OVERRULING MOTION FOR TEMPORARY RESTRAINING ORDER—May 8, 1925

This day came the plaintiff, by its counsel, as well also the defendants, by their counsel, and the protestants, likewise by their counsel; and the court proceeding to pass upon the motion heretofore made and argued for a temporary restraining order herein, doth overrule the same and doth decline to grant said temporary restraining order.

ORDER SETTING HEARING ON MOTION FOR INTERLOCUTORY INJUNCTION AND CALLING FOR TRIAL BY THREE JUDGES—May 8, 1925

And the plaintiff having moved for an interlocutory injunction in accordance with the prayer of the bill, and all of the parties being present in court, by their counsel, it is ordered that the hearing of the motion of the plaintiff for a preliminary injunction be and it is hereby set for the 15th day of May, 1925, at ten o'clock A. M., in the United States Court Room, in the City of Charleston, West Virginia. And all of the parties who are required to have notice of said hearing being present in court or represented at this time, notice thereof is by them waived.

And I hereby call to my assistance at the hearing of said motion the Honorable John C. Rose, a Circuit Judge of this Circuit, and the Honorable Henry C. McDowell, Judge of the District Court of the United States for the Western District of Virginia.

Dated at Charleston, West Virginia, this 8th day of May, 1925.

Geo. W. McClintic, Judge of the District Court of the United States for the Southern Dist. of W. Va.

[fol. 209] IN UNITED STATES DISTRICT COURT

[Title omitted]

Statement of Evidence

Upon the hearing of this cause before the Hon. John C. Rose, one of the judges of the Circuit Court of the United States for the Fourth Circuit, the Hon. Henry C. McDowell, Judge of the District Court of the United States for the Western District of Virginia, and the Hon. George W. McClintic, Judge of the District Court of the United States for the Southern District of West Virginia, upon the plain-
[fol. 210] tiff's motion for an interlocutory injunction, it was agreed by the parties that all the evidence heard and considered by the Public Service Commission of West Virginia upon the hearing before that commission upon the order suspending the rate sought to be put in force by the plaintiff, should be considered with the same force and

effect as if the witnesses testifying before said Commission were present and testified in open court, and that all of the exhibits, papers and other evidential matter introduced before said commission upon said hearing shall likewise be considered as introduced on this hearing; and there was thereupon introduced upon this hearing a transcript of all of the evidence heard by the said Public Service Commission at the various hearings had before it, certified by the official reporters of said Public Service Commission, which it is agreed is a correct transcript of the evidence to be here considered, together with all of the exhibits, data and statements referred to in the evidence of said witnesses; and that in addition to such evidence as was had before said public Service Commission either party might introduce such evidence as it was advised might be proper upon this hearing. The evidence introduced before said Public Serv-
[fol. 211] ice Commission is in substance and effect as follows:

Charles F. Uebelacker, introduced as a witness by United Fuel Gas Company, testified in substance and effect as follows:

That he resides at Hackensack, New Jersey; that his business address is 115 Broadway, New York City; that he is a member of the engineering firm of Ford, Bacon & Davis; that he has had experience as an engineer in the operation, construction, valuation and investigation of public utility properties for about thirty-four years; that he was graduated from Princeton College with the degree of electrical engineer in 1890; that thereafter he was employed in the factory of the Brush Electric Manufacturing Company, Cleveland, until 1893, in positions from apprentice to assistant superintendent; that thereafter he was in the employ of the Consolidated Traction Company of New Jersey until 1897, in positions from armature winder to chief engineer, master mechanic, and for part of the time as division superintendent in the transportation department; that from 1897 to 1899 he was in the employ of the Peckham Motor Truck and Wheel Company, Kingston, New York, as Works Manager; that from 1899 to 1901 he was in the employ of
[fol. 212] the firm of which he is at present a member, representing that firm in the management of the Elmira Water,

Light and Railroad Company, Elmira, New York, in which position he had charge of the operation of a street railway, electric light, gas and city water supply; that from 1901 to 1912 he was chief engineer of the firm of which he is now a member, and that in 1912 he became a member of that firm; that since he became an employee of said firm he has been largely engaged in the construction, operation and examination of public utilities, and in the course of that work, beginning with 1906, he has made some thirty-six reports of natural gas companies, involving some twenty-five different companies, distributed from Pennsylvania and West Virginia on the east to California on the west, and from Louisiana on the south to Alberta, Canada, on the north—in other words, distributed over the natural gas fields of this country; that he has made investigations principally of electric light and railway properties and public utilities engaged in these industries in a majority of the larger cities of the country, a few of such examinations having been made of such industries in Pittsburgh, Pennsylvania, Philadelphia, Pennsylvania, New York, N. Y., Schenectady, N. Y., [fol. 213] Buffalo, N. Y., Nashville, Tenn., Knoxville, Tenn., Birmingham, Ala., New Orleans, La., Memphis, Tenn., Little Rock, Ark., Houston, Texas, San Francisco, Calif., Chicago, Ill., St. Louis, Mo., Providence, R. I., and others which he did not recall at the time he made out the list; that his firm usually employs from 140 to 250 assistants in carrying on its work, and that the valuation work done by that firm has amounted to several billion dollars in the last ten years.

That he has made recently a valuation of the property of the United Fuel Gas Company; and the witness then detailed the method used by him in making said valuation in the following language:

I have before me a summary of the valuation of the United Fuel Gas Company, dated December 31, 1923.

We prepared with the assistance of the company records and the assistance of information we could obtain from people who had been long in the employ of the company, and from actual count and investigation made by our own men in the field, an inventory of the physical property of the company.

In cases where we depended upon the company records and where we depended on information from employees

of the company, we, so to say, spot-checked that informa-
[fol. 214] tion, to find whether, in individual instances, what was actually found in the field corresponded with what had been submitted to us. In all, we either actually inventoried ourselves or spot-checked the information taken from the records of the company to the extent of about sixty-five per cent of the entire inventory.

We then proceeded to prepare unit prices which would be fairly representative of costs as of December 31, 1923, in this vicinity. In the preparation of these unit prices we examined the records of the company to determine the rates of wages paid by them and also the current prices actually paid by them for the materials. These latter we checked by our own records and by quotations directly from manufacturers.

We then applied these unit prices to the inventory previously prepared and this application resulted in the cost to reproduce the physical property. To this cost to reproduce the physical property we added certain overheads. These overheads may be summarized as to each of the principal divisions of the physical property, amounting in total to 21½ per cent on production system, 26 per cent on
[fol. 215] transmission system, 22 per cent on distribution system, and 22 per cent on general property. These overheads are made up of "engineering and superintendence," "administration" during construction), "interest" (during construction), "pre-construction costs," "legal expenses," "insurance and taxes" (during construction), and "cost of financing."

(The valuation made and the report thereon by the witness was filed as part of his testimony, marked Uebelacker Exhibit No. 1, and the treatment of general overheads referred to by him appears at pages 22 and 23 of the printed exhibit.)

The witness proceeded further to explain the method used in making said valuation, as follows.

In connection with "cost of financing" I would like to specifically bring out the fact, which is also mentioned in the text of this report, that the amount we have there allowed of 4 per cent does not include anything for discount on securities. It includes simply the expense of distribut-

ing the securities to the public who are the final investors. It is an expense item and not a discount item.

The details of the reasons for which we assume the per- [fol. 216] centages given in the table appearing on page 23 are fully set forth in the succeeding pages of the report.

Having thus arrived at the value of the physical plant, there was next included an allowance for working capital, as appears from said report.

We next proceeded to ascertain the value of the leaseholds and natural gas rights. In ascertaining this value the principle we followed was that given on page 26, namely:

"The measure of the value to the owner of leases of gas in the ground is the difference between the prevailing market price at which such owner or lessee can purchase gas delivered to the field mains and the cost to such owner or lessee of producing and maintaining with his own wells an equivalent supply of gas at the same point of delivery."

To assist us in preparing the table of the value of the United Fuel Gas Company's rights, we had available the report of Mr. R. E. Davis giving the computation of the volume of gas remaining in the proven and probable territory controlled by the United Fuel Gas Company and amounting to about 663,000,000,000 cubic feet of recoverable gas.

We have made ourselves familiar with the process by [fol. 217] which Mr. Davis developed this estimate and agree with his methods. In fact they are the methods which are generally considered to be the most reliable where sufficient data (as was the case with the United Fuel Gas Company) is available to develop estimates along these lines.

Our next step was to develop the prevailing market prices, and, for this purpose, we had available some six actual demonstrations (illustrations) of contracts which are not dependent upon the price at which gas is sold to the ultimate consumer.

The details of our development of these prices appear on pages 27 to 39 inclusive, and, on page 39, appears a brief table giving a summary of the illustrations which we had to guide our judgment as to the value of gas in the ground.

These six illustrations were, first, purchase of gas in

field by Owens Bottle Works, the contract price for which was 10 cents and, after deducting the cost to the United Fuel Gas Company of producing gas in its own field, left the value of the gas in the ground, based upon the owner's contract price, $0.04569 per M C. f.

The Owens Bottle Company does not buy this gas from the United Fuel Gas Company or any other company en- [fol. 218] gaged in the public utility business, and its plant is located near Charleston, West Virginia.

The International Nickel Company purchases gas in the field, or rather gas is delivered to them, at $0.20 per M c. f. which is equivalent to gas in the field at $0.17 per M c. f., and the value of the gas in the ground, based on deduction from that price of the cost to the United Fuel Gas Company of producing gas from their own fields, would be $0.11569 per M c. f.

There will be introduced, as I understand it, testimony to the effect that industries in the Pittsburgh district would pay for gas, delivered twelve months out of the year, at least $0.30 per M c. f., and, bringing that price back to the field price by deducting the cost of transmission, production, and the return on investment, on the necessary plant to handle that gas to Pittsburgh, results in a value of gas in the ground of $0.07188 per M c. f.

Large quantities of industrial gas, as I am informed, are sold in Pittsburgh at a price of at least 30 cents, and I am also informed that considerable quantities are sold, and have been for a number of years, at that point at considerably more than thirty cents, and I think, con- [fol. 219] sidering the fact that the contracts now made for industrial gas in Pittsburgh involve the right of the supplying company to shut off the supply during cold weather when the total available supply may be required for domestic customers, would indicate that the price of thirty cents quoted is probably low. My statement was that I understood that further testimony would be introduced to the effect that thirty cents, I should have said that thirty cents or more, was the price at which all gas developed from the fields of the United Fuel Gas Company could be disposed of in Pittsburgh.

My calculation is based on a rate of thirty cents at Pittsburgh, which I would consider as a decided minimum.

The normal price quoted in the field by the South Penn Oil Company, for purchased gas, is $0.08, which figure I have used in this statement. However, I understand that they have recently entered into one or more contracts at $0.12 per M. c. f. Based on a rate of $0.08, the value of gas in the ground would be $0.2569 per M c. f.

The United Fuel Gas Company delivers at Cedarville to the Hope Company and to the Philadelphia Company at an average price to the Hope Company of $0.2266. The price under that contract varies with the volume delivered [fol. 220] per day, but the average over the year was $0.2266 per M c. f., and results after deducting cost of production and delivery to Cedarville, in a field price of $0.05108 per M c. f. as the value of the gas in the ground.

The United Fuel Gas Company has recently entered into a contract with the Falling Rock Cannel Coal Company for the purchase of gas from which the gasoline has been extracted, and, incidentally, in this connection, I should mention that this contract permits the Falling Rock Company to deliver gas as they produce it. In other words, in uniform quantities each month, and I noticed in looking over their record of deliveries that they actually had delivered greater volumes monthly in the summer than they had in the winter when the United Fuel Gas Company has the greatest requirements. In other words, this gas is not delivered to the United Fuel Gas Company in accordance with the requirements of the United Fuel Gas Company but in accordance with the convenience of the vendor. This price is at the rate of $0.085 per M c. f. at the well and would result in a value of gas in the ground of $0.03089 per M c. f.

In view of all these illustrations, my judgment is that the value of gas in the ground is not less than $0.05 per M c. f., which figure we have applied to the reserve calculated by [fol. 221] Mr. Davis and thus arrived at the value of the practically known gas reserves of the United Fuel Gas Company.

There remains, then, the value of the untested acreage of the United Fuel Gas Company. That we have shown at the average cost in 1923 of acquiring the untested acreage, which was approximately $5.00. The figure appears on page 40 and is $5.26 per acre, the average cost of acquiring untested acreage in 1923.

The summary of this calculation for the value of the gas reserves appears on page 40 and is the estimated value of proven and probably productive acreage, based upon Mr. Davis' determination of the volume of recoverable gas in the proven and probably productive acreage at five cents per thousand—$33,155,422.00, and the estimated value of the unproven acreage, based on the cost per acre actually found in 1923 of $5.96 per acre of unproven acreage—$3,293,754.00; making the total estimated value of the leaseholds and natural gas rights—$36,449,176.00.

On the succeeding pages of the report appear, first, a summary of valuation of the entire property of the United Fuel Gas Company; secondly, a division of this summary by geographical location in the States of West Virginia, [fol. 222] Kentucky and Ohio; and, thirdly, a segregation of the valuation in accordance with the Standard System of Accounts prescribed by this Commission for natural gas companies.

There is also, on page 42 of the report, a brief resume of the principal unit prices as of December 31, 1923, used in pricing the inventory. And, at the end of the report, a small-scale map showing the location of the transmission lines, pumping stations, and distribution systems owned by this company.

In addition to the summary from which I have just been quoting, there are five volumes giving in detail the items in the inventory and the price applied to each item, from which details the summary statements which I have just been describing were collected.

That the summary about which he has been speaking shows two values, to wit, the cost to reproduce the property as of December 31, 1923, and the cost to reproduce it at said time less observed deterioration; that at the time the inventory was made an inspection of the property for condition was also made, and the observed condition of the property resulting from that inspection is reflected in the value entitled "Cost to reproduce less observed deteriora- [fol. 223] tion;" that the report does not indicate the time at which the various items of property were installed; that no attempt was made to apply the straight line method of depreciation; that to a certain extent the report made up by the witness as "Study of the Historical Value of the

Property'' does indicate the date of the installation of the various items thereof, but that element does not appear in the ''cost to reproduce;'' that in determining this he merely observed the property itself and its present condition, and that the calculations contained in the report are based upon the cost to actually reproduce the property as indicated above, and the other valuation upon the cost to reproduce it less the deterioration observed from its use; that the general overheads heretofore referred to by the witness were applied to the physical properties only, and not to the gas reserves, no value being added to the value of the gas reserves on account of any intangible items; that the total value of the property of United Fuel Gas Company, as ascertained by the witness and as shown by said report, is $74,493,601.00, cost to reproduce, and $66,070,496.00, cost to reproduce less deterioration, both being based on prices current December 21, 1923, and on property in existence at [fol. 224] that date, and this includes all property of the company in the states of West Virginia, Kentucky and Ohio, and that in the report this property is divided geographically among these several states; that the property indicated as being in West Virginia is simply the property geographically located in that state, and does not indicate that all of it is used in the public service in West Virginia; that the witness has assigned a proper proportion of the property to the public service in West Virginia, and will refer to it later in his testimony; that all of the property the valution of which has been spoken of is property used or useful in the natural gas business of the company, except as some portion of the same may incidentally serve the gasoline business, and that to that extent the witness has given it weight; that the values given by the witness for the company's natural gas reserves do not include any value on account of any gasoline content which may be contained in the natural gas or any property or equipment owned by the Virginian Gasoline and Oil Company used for the recovery of gasoline from the gas, except that the transmission system does transmit a certain proportion of the gas from which eventually the gasoline is extracted; that the value of the gas reserves is determined from the [fol. 225] volume of the gas sold from which the gasoline has already been extracted, and consequently does not in-

clude any value for gasoline content of the gas reserves, and no portion of the gasoline plant is included in this valuation.

That in the instances referred to by the witness and used by him in ascertaining the value of five cents for natural gas in the ground, he is informed that the price paid by the Owens Bottle Company, referred to by him, is for gas from which the gasoline has been extracted, or at any rate that the producer has the right to extract the gasoline, although he may not do it in all cases; that in the case of the International Nickel Company referred to by the witness the gasoline is not actually extracted, but the producer has the right to extract the same, and is, as witness understands, contemplating erecting a plant for that purpose, and that the extraction of this gasoline will not change the contract price; that the delivery at Pittsburgh is for gas from which the gasoline has been extracted; that the purchase price in the field for the South Penn Oil Company is the same for all gas, whether the gasoline has been extracted or not, no distinction being made in the price; that the gas delivered at Cedarville by the United Fuel Gas [fol. 226] Company to the Hope Natural Gas Company and Pittsburgh and West Virginia Gas Company is all dry gas, from which the gasoline has been extracted; that the price paid by the United Fuel Gas Company to the Falling Rock Company is specifically for dry gas, from which the gasoline has been extracted before delivery. In every one of the instances referred to by the witness prices are for dry gas, from which the gasoline has been extracted, or from which the vendor has the right to extract the gasoline if he so wishes; that the value of the gas reserves as fixed by the witness would be increased if the same were valued on the basis of including the value of the gasoline content to the extent of whatever that value might be; that the same has been entirely disregarded in his conclusions; that the unit price which he has applied to the volume of the gas reserves is a price which takes into account only delivery of dry gas—that is, gas from which the gasoline has been extracted.

In referring to the purpose for which the valuations of other properties were made, heretofore referred to by the witness, and the experience he has had in such work, the wit-

ness stated as follows: They were made for various purposes; in some instances to arrive at a basis for the consolidation and improvement of properties; in some instances to advise our clients as to the desirability of the purchase of [fol. 227] certain properties, and, in perhaps more than any other instances, these investigations were made for the purpose of determining what was a fair rate for our clients to ask.

I might say, incidentally, that having been in the public utility business practically all of my active life, ever since leaving the Brush Works in 1893 (my experience in the public utility business began before State Commission regulation had been considered at all), consequently, being in that line of work, I have been naturally interested in the development of state regulation from the time of its inception.

That the books of the ordinary company do not ordinarily disclose what are generally and almost universally allowed as overhead costs or charges, and more particularly is this true of those properties that were started, say prior to 1905 and 1907. Since that time there has been more attention paid to seeing that the books did reflect all of the expenses in such detail that they could be identified. Prior to that there were a great many expenses that never appeared on the books of the company and that could not be identified; that he does not know whether the books of the United [fol. 228] Fuel Gas Company disclose fully these overhead costs or charges; that the witness has had actual experience in numerous instances as to what, in a given enterprise, these overhead charges actually amount to; that perhaps the most illustrative instance, as throwing light on the present situation, would be the construction last summer (the witness testifying in May 1924) of a new natural gas transportation and distribution system in northern Alberta, Canada. In that case the witness made from the records the actual expenditures, so far as the same could be determined, of the amounts actually expended for overheads similar to those submitted in his report in this case. The work was carried on during the summer and fall and was completed in November or December. It did not include, however, certain pre-construction expenditures, such as the expense of promotion and so on, which was never set down, or at

any rate, which did not appear on the company's books. That the figures used by the witness were taken from the books of the Canadian company, the construction being under the charge of witness' firm, and monthly reports of expenditures being submitted to its office, and the man who had charge of keeping track of these expenditures returned to our office at the time the assemblage of figures [fol. 229] was made; that the figures given by the witness were worked up by the records that had been sent in monthly and the records of construction cost brought on; that the records from which the figures were made up are now in the witness' office at 115 Broadway; that the construction was done under the witness' supervision and the reports were sent to him for his consideration; that the plant construction at Alberta was much smaller than that of the United Fuel Gas Company, being intended to supply about 60,000 people, with estimated daily maximum requirements of 16 million cubic feet; that the overhead charges on the construction of the plant in northern Canada to which he has referred were as follows:

Engineering	5 16%
Administration	4 28%
Interest	4 26%
Pre-construction expenditures	3 14%
Taxes and insurance during construction	39%
Legal expenses	1 48%
Cost of money	4 06%

a total of 22.72 per cent of the construction cost exclusive [fol. 230] of the overhead; that in the construction of the plant of United Fuel Gas Company similar work and studies would have to be gone through with that were gone through with in the Alberta plant, and the figures given above by the witness do not include certain pre-construction expenses of which no record was made in the erection of that plant; that the record of overheads on this single enterprise is supported by the witness' experience on other construction work of like kind done under the witness' supervision, three analyses of which have been made. In case A the total overheads comparable with those of recent construction which were determined by the witness were 22.68 per cent, as compared with 22.77 per

cent in the Canada case; in case B they were 20.99 per cent, and in case C, which was the case of United Fuel Gas Company, which was also set up prior to analyzing the Edmonton case as to the establishment of the overheads, they were ascertained to be 23.5 per cent. That these illustrations were the result of previous experience in actual construction and in ascertaining the values before preparing the check figures from the recent experience in Canada hove referred to; in other words, that the judgment of the witness based on recent experience was practically borne out by actual results in the construction in Canada referred to; that the figures given by the witness repre- [fol. 231] sent his best judgment as to the minimum of these overhead charges; that they might be exceeded somewhat; that if he was preparing an estimate as a basis for future construction and was fixing these items of overheads as to his best judgment as to the desirability of such construction, he would probably consider the overheads at 30 per cent instead of 22 or 23 per cent, as he would certainly consider that he would have a greater expenditure than is indicated by 22 per cent.

The witness, being asked to give his opinion as to the "going concern value" of the property and as to what amount should be added to his figures on that account made the following answer:

I have not given in the detailed valuation an estimate of the going concern value for the reason that I know of no arithmetical formula which can be reduced to dollars and cents and represent going concern value. It varies with every property you come across. In any non-regulated property it can be arrived at through net earnings, but, of course, that is not permissible in valuing a regulated property. I have had prepared for a previous case a list of a large number of commission and court decisions on the question of going concern value, and the average of the [fol. 232] commission cases, in the tabulation, was about 11 per cent of the physical plant value, and, in the court cases, about 12 per cent of the physical plant value, which, applied to this property, and excluding from the physical plant value, of course, the value of the gas rights, would represent somewhere between three and three and a half million dollars as going concern value.

As I regard going concern value it includes those elements of improvement after original construction, training of the organization—that is, the improvement in plant after original construction—experience of the organization in the handling of the plant; the added fact of the connected load, as compared to the bare enterprise without customers, and the increment in value which resulted from good judgment in the original or earlier business transactions—judgment, that is, as distinguished from good will, which is not inherent in any regulated enterprise. In other words, my distinction between good will and going concern value is that going concern value is constituted of those elements which tend to reduce the cost of production, whereas good will, which is permissible in any regulated enterprise, is constituted of those elements which go to increase gross earnings, such as fair business treatment [fol. 233] of customers, prompt deliveries and things of that kind, and we are discussing now solely going concern value and not good will.

I might illustrate some of the elements that may enter into going concern value in the case of the United Fuel Gas Company. In the first place, as to the plant, its transmission lines. The original location of the transmission lines is not always satisfactory, due to the fact that it may be on a hillside, or slope, or where river crossings are found to be dangerous and alterations in location have to be made, to prevent future trouble. That can only be found out after experience with the original location. The experience which has been gained and results in a safer location of that kind is certainly an element of going value.

In the inspection which I made a few days ago of some of the compressing stations I found two illustrations—minor illustrations at that—of alterations which had been made in compressors as the result of experience. In one case certain alterations had been made in the design of the power cylinder rods which has resulted in the rods so altered now giving three years' service, when prior to that the rods as originally designed and furnished with the original compressors had gone out of service in a year or a [fol. 234] year and a half. There is a decided step in advance in improvement of plant.

Another illustration was a case where the original design had resulted in an air pocket immediately around the ex-

haust valve seats so that the cooling water could not come in direct contact with the exterior of those seats, the natural result being that a very rapid burning of the valve seats took place. A slight alteration in the design eliminated this air pocket and that trouble no longer exists.

Instances of that kind could be quoted almost without end where experience with the operation of the physical plant has resulted in improvements which tend to reduce maintenance and also increase the reliability of operation.

The company has quite a number of contracts entered into several years ago for the purchase of gas at very much lower rates than gas can be purchased in the field today. The difference in the cost of natural gas purchased under these low rate contracts and the present cost of gas current in the field, capitalized, would also be an element of going value.

The company is very fortunate in having an unusually [fol. 235] consolidated holding in uniformly productive territory, with the result that its record of dry holes is only about 10 per cent. of the total wells drilled, whereas an average of 25 per cent., I find, is not unusual in regard to this drilling. Now that would represent an average difference in the cost of a productive well of about $1,200.00. That is, if you distribute over productive wells the cost of dry holes. There are about two thousand locations in the gas territory, proven and probable, still to be drilled. If the company saves, through the reduction in the number of dry holes, on account of this uncommonly uniform territory, an amount of $1,200.00 a well, on two thousand wells, it is a mater of $2,400,000.00. Not that we claim that that is an actual value, but the good judgment which was used in selecting the territory which the company controls certainly has a value.

In other words, if you sum up these and similar elements which I say would come under going concern value of the property of the company, you would get a much larger value than the three or three and a half million dollars which I mentioned as being the result of applying the average percentage (which has been used under the commission decisions) to the physical plant of this property.

[fol. 236] That from the foregoing the witness concludes that there is an element of going concern value in connec-

tion with the property of the United Fuel Gas Company of from three to three and a half million dollars; that there is no formula for estimating the value in dollars and cents except summing up instances showing the extent to which the company saves in its expenses owing to experience and good judgment—going concern.

That altogether the witness's firm has had employed some thirty individuals on the work of making the valuation of the property of the United Fuel Gas Company; that the aggregate time, exclusive of stenographers and comptometer operators, was about 868 man days, exclusive of the witness's own time, of which he kept no particular record, but of which he employed from three weeks to one month; that the entire report as to valuation relates to December 31, 1923; that the witness has observed the property since that time and does not think that there is any material change from December 31, 1923, to the time of this testimony in May 1924, except that there was certain construction going on in a fairly advanced stage at the time he was testifying which would have to be added; that there [fol. 237] had been no material change in the unit prices used by him except that prices had gone slightly higher after December 31, but that there was a slightly downward trend at the time of his testimony, but that there was no material change from December 31, and that the valuation made as of December 31, 1923, would be substantially correct at the time the witness was testifying in May 1924.

(There was then offered in evidence the valuation of United Fuel Gas Company, Incorporated, as of December 31, 1923, marked Uebelacker Exhibit No. 1, and which is attached hereto, so marked. There was also offered, accompanying said exhibit, five volumes referred to in the evidence of the witness, being an inventory of the property of the company item by item, with the valuation of each item, all of which were admitted in evidence; but inasmuch as the engineer experts of the defendants have made a like inventory of said property and have checked the inventory made by this witness and have found it exact in all particulars and correct, both as to the items of property and the prices affixed thereto, as of December 31, 1923, as appears

from the evidence of W. J. Hagenah hereinafter contained, it is deemed unnecessary to include in this record the detailed inventories of the property, there being no disagree-
[fol. 238] ment between the expert witnesses of the parties as to the reproduction cost thereof as of the 31st day of December 1923.)

That in addition to the inventories and valuations made up above referred to, the witness compiled a report entitled "Estimated Historical Cost," and files the same as part of his testimony marked Uebelacker Exhibit No. 3 (and the same is hereto attached, so marked.)

In explanation of said report the witness testified that this estimated historical cost takes the inventory which he prepared for the cost of reproduction, shows what portion of that inventoried apparatus was in existence prior to December 31, 1915, prices that portion of the now existing apparatus that was in existence prior to December 31, 1915, at the average prices ruling in this vicinity between 1906 and 1915—in other words, at the ten year average prewar prices—and prices those items in the inventory which were installed since December 31, 1915, at the book cost of their purchase and installation, to which the overheads have been added similar to those described before in connection with the reproduction cost, the book values not reflecting any considerable part of such overheads.
[fol. 239] The value of the leaseholds in this estimated historical value has been taken at the amount at which the leaseholds and natural gas rights now stand on the company's books instead of at the estimated value of gas in the ground. This estimated historical cost shows a total of $32,813,708.00, representing the estimated historical cost of the entire property in West Virginia, Kentucky and Ohio, exclusive of any gasoline value, and in the report it is divided geographically among the several states in which it is located, which is simply the valuation of that part of the plant and found in each of the several states. The witness used the same amount of working capital in making this report that is used in the reproduction cost report, but there is not included therein any amount for going concern value, nor is there any such amount included in any of the witness's reports.

That he has made up a statement showing the unit prices used by him and the method of deriving those unit prices,

which gives the derivation of the unit prices used in making the inventory as of December 31, 1923, derived from the records of the company, and other general details. In making up this statement the witness did not go through each individual plant and show the unit price for that plant, [fol. 240] which information is given in the detailed inventories, but simply determined the unit prices in detail for a typical plant, giving the unit prices for the items entering into the wells, compressing stations, the different sizes of pipe laid in transmission lines, and so on.

(The witness thereupon filed said statement as part of his evidence, marked Uebelacker Exhibit No. 4; but inasmuch as these unit prices as determined by the witness, after the same were checked by the engineer expert employed by the defendants, were found to be correct in all particulars, as appears from the evidence of the witness W. J. Hagenah contained hereinafter, and there is no controversy as to the correctness thereof, it is deemed unnecessary to insert the said report in this record.)

That the witness has made up several statements based upon the actual expenses and actual revenues adjusted to meet various theories which may or may not be adopted. The first of these consists of the cost and return on investment and resulting rates, and is marked Uebelacker Exhibit No. 5, entitled "United Fuel Gas Company, Incorporated, West Virginia Distribution, Analyses of Expenses and Return on Investment per M c. f. and in total expenses and sales, year 1923; Actual Valuation Basis, Estimated Cost of Reproduction New less Observed De- [fol. 241] terioration," which is filed as part of the testimony of the witness, marked as above indicated, and is attached hereto.

In explanation of this exhibit the witness stated:

The purpose of this study is to develop the average price for gas sold in West Virginia, which would result from adding together that proportion of the gas production and transmission expense which is assignable to the sales of gas in West Virginia, that proportion of the depreciation on the gas plant, the amortization of the Company's gas holdings and plant and depletion of its value which are assignable to the sales of gas in West Virginia, and the

return on the investment assignable to the sales in West Virginia, together with the actual distribution expenses, return on investment, depreciation and amortization on the distribution plants actually geographically located in West Virginia.

The detail of the method which has been adopted is, beginning with production, to determine the cost per thousand of producing gas, including the amortization of the leasehold values, the actual operating expense, depletion on investment in wells, the depreciation of physical plant, other than wells, in the production system, and return on investment at 8 per cent and at 10 per cent, there being two [fol. 242] separate calculations for the two different rates, and to make this determination on the basis of the cost to reproduce new as of December 31, 1923, and the cost to reproduce as of December 31, 1923, less observed deterioration, these being two separate calculations.

To this cost per thousand of production, which is the average cost of producing of the net production by the company, has been added the average cost, including the same items, of transmission; the sum of the two being the cost, including the return on investment, to the company of delivering gas at what might be called the city gate; in other words, at distribution centers in West Virginia on boundaries of West Virginia, of all gas sold.

There are two exceptions to be noted; first, that in arriving at the volume of gas production, used as a divisor for the entire cost of production, the gas sold in the field has been included; on the other hand, in arriving at the divisor, that is, the number of thousands of feet of gas handled by the transmission system, gas purchased has been added to the net gas produced (after deducting field sales from total production), so that the cost per thousand transmitted is the result of dividing the total expense by the sum of the net gas produced by the company and the gas purchased in [fol. 243] the field. To the city gate rate thus arrived at has been added the cost per thousand for actual distribution expense, amortization, depreciation on the actual reproduction cost of the distribution plants located in the state of West Virginia; the sum total making the average rate for industrial and domestic gas which the company would have to charge in order to earn an 8 per cent, or a

10 per cent. return on its value, either new or less deterioration.

That there is also appended to the statement, arrived at by a similar process, a statement showing the return on investment that results from the application of existing rates; that for the purpose of this calculation the witness has assigned a certain part of the United Fuel Gas Company's property to the business under investigation—that is, that part devoted to the service of gas to consumers in the state of West Virginia; that in making this assignment the production values were divided upon the basis of the ratio of gas sold in West Virginia to the total gas sold; that there is included in this item of production value the value of the leaseholds and gas rights, the depleted value of the producing wells, and the value of the other productive structures, up to the transmission lines; that in the [fol. 244] cost to reproduce new it has been considered that the value of the drilling costs and equipment costs of wells is only that portion of the original cost which is represented by the remaining recoverable gas to be obtained from them—that is, there has been actually included as the new value of the well costs only about 46 per cent. of the reproduction cost of these wells, as it cannot be considered that they have a value in excess of their ability to produce gas, and they are 54 per cent. exhausted. Of this production system thus ascertained there has been assigned to the West Virginia public service in this calculation a part bearing the same proportion to the whole of the production system as the quantity of gas sold in the public service in West Virginia in 1923 bears to the total gas sold by the company, without giving any consideration to the fact that the public service business has the first call upon the system.

In determining the part of the transmission system assignable to the public service in West Virginia there have been first eliminated those lines which carry gas entirely outside of the state. There is one line which carries gas partly in the state and partly outside the state, which has been included in the general transmission system because it is inseparable therefrom, and although part [fol. 245] of the line is located in Kentucky, its function is to deliver gas in West Virginia. After eliminating from the cost to reproduce the transmission system

those lines which function entirely outside of the State of West Virginia, the expense and what is termed the "investment responsibility" of the remaining transmission system has been divided by the total gas handled by the company. The result thus obtained was what might be termed a city gate rate, which was applicable to gas distributed in the State of West Virginia and to gas sold at the state line to companies outside of the state. To the city gate rate has been added the actual expense and investment responsibility for the distribution systems in the state of West Virginia, and this has been divided by the volume of gas sold in West Virginia for consumption therein. In this manner the total value of the property attributable to the public service in West Virginia is, on the basis of reproduction new, $17,702,672.00, and on the basis of reproduction new less observed deterioration, $16,477,205.00, as will appear from Uebelacker Exhibit No. 5 filed as aforesaid; that the witness regards the method used by him as a fair distribution of the expense and as near as can be ascertained a correct method; that in making this distribution no ac-
[fol. 246] count or credit was taken, or charge made, against the West Virginia public service consumers for the preference given them in the utilization of the property, but that if such preferential service is given them then they should be charged additionally therefor.

That in making up this statement the witness has used the terms "depreciation" as to certain parts of the property, "depletion" as to certain other parts, and "amortization" as to certain other parts; and in explanation of these terms the witness says:

I will take up the term "depletion" first and in the beginning will say that is used only as a term in order to distinguish between certain conditions which are independent of each other, which do not rise and fall in unison.

The term "depletion" as used here, we will say, applies to the retirement of the cost of well drilling equipment, less salvage, and plus the cost of recovery of such portion of the well equipment as can be recovered, the cost of plugging wells, and other incidental expenses of abandonment.

[fol. 247] The term "amortization" applies to an allowance for the eventual retirement of the present value of

gas reserves and the present value of operating plant in West Virginia upon the exhaustion of the supply of natural gas which is essential for its operation.

The term "depreciation," as used herein, and in the amount which has been assigned to it, means simply an allowance for the equalizing of the annual expenditures for keeping the plant in condition to perform 100 per cent service; and accruals to a depreciation fund calculated in this way are in no sense intended for the retirement of the value of the investment. They are simply an equalization of the annual expenditures for maintenance and replacements, and any fund accruing under the allowance which we have made would accrue perhaps for two or three years and then, as any heavy expenditures for maintenance were made by the company, become entirely exhausted, and then might accrue for two or three years, and, on the re-occurrence of a period of heavy expenditures for maintenance, again be entirely exhausted. It is in no sense for the purpose of returning to the owners of the property the value of the property used in the service at the termination of such use.

That the term "plant" used by the witness in connection [fol. 248] with the term "amortization" means the actual physical plant which is utilized in the production, transmission and distribution of the gas, and also applies to the value of the gas reserve, which is exhausted as the gas is distributed; that the term "depletion" applies to the gas wells and not the term "amortization," as the same is used by the witness; that the term "depletion" takes care of the drilling and material costs of the wells, and cost of abandoning the wells, deducting therefrom the salvage from the abandoned wells; that the term "depreciation" is to take care of such incidental renewals as are necessary to keep the plant up to 100 per cent, the term "amortization" being used to take care of the physical plant. In illustration, the witness stated that to re-rubber a line the charge would be to depreciation reserve, but if the line was abandoned because the gas in the territory was exhausted the cost of the abandoned line would be charged to amortization reserve; that the term "depreciation" is a device for equalizing maintenance charges.

That the property valued by him and about which he has been testifying, while owned by three companies, is really

one company; that the property valued by him is the prop-
[fol. 249] erty of the United Fuel Gas Company, the Warfield Natural Gas Company and the Cabin Creek Gas Company; that all the stock of the Warfield Natural Gas Company is owned by the United Fuel Gas Company, and that the same is true as to the Cabin Creek Gas Company—at least, the witness assumed this in making his valuations—and that the properties of all these companies are operated as a single unit and are treated as a single unit, and in the statements of expenses, revenues, and rates of return made up by the witness he has included the properties of all three companies and treated them as a single unit.

Referring to Exhibit No. 5, to the statement contained on the last two pages thereof, this statement shows the net earnings resulting from the existing rates, without including in the expense any return on investment, based on the revenues and expenses for the year 1923, and on the estimated cost of reproduction new as of December 31, 1923, also on the reproduction cost as of that date less observed deterioration, and refers entirely to gas and to the property and revenues and expenses applying to the gas sold for consumption in West Virginia. It shows the net earnings in dollars and cents were a minus of $253,649.00—that [fol. 250] is, after allowing depreciation on the basis which witness explained, and amortization, in addition to the actual operating expenses and taxes, exclusive of 12½ per cent income tax. The rate of return on the basis of reproduction new is a minus of 1.433 per cent, and on the basis of reproduction new less observed deterioration a minus of 1.539 per cent; and by minus is meant a per cent of loss on investment—that is $253,649.00 is loss on investment applicable to gas sold in West Virginia, and not a gain. In arriving at this conclusion the total amount allowed for depreciation is about $[illegible] annually, and this is about 4 per cent on the actual depreciable property.

The witness then offered in evidence, along with Exhibit Uebelacker No. 5 above filed, Uebelacker Exhibits 5a, 6, 6a, 7, 7a, 8 and 8a. Exhibit Uebelacker No. 5, above referred to, and which has already been filed, gives the average rate per thousand for all domestic and industrial gas sold in the state of West Virginia that would result from including in the expenses of producing, transporting and distributing gas a return of 8 per cent and a return of 10 per

cent on the value of the property devoted to that purpose. Exhibit Uebelacker No. 5a gives a determination on a simi- [fol. 251] lar basis of the rate at which domestic gas should be sold and the rate at which industrial gas should be sold, taking into consideration the relative responsibility for the investment in plant required to serve each class of consumer; and said Exhibit Uebelacker No. 5a is attached hereto and made a part hereof. Exhibits Nos. 5 and 5a are based on taking the expenses as shown in the company's books. Exhibits Nos. 6 and 6a are the same as Nos. 5 and 5a except that in Nos. 6 and 6a an allowance in the expenses and investment is made by deducting from the production and transmission expense and investment responsibility 3 per cent on account of the gas consumed in the extraction of gasoline. The same distinction exists between 6 and 6a, namely, that 6 shows the cost at the average price of domestic and industrial gas, and 6a gives the domestic price resulting from its expense and investment responsibility and the industrial price resulting from its expense and investment responsibility separately. The said Uebelacker Exhibit No. 6 shows a loss of $219,669.00 instead of a loss of $253,649.00 as shown by Exhibit No. 5, and a corresponding decrease in the loss of rate per cent. Exhibit No. 6a shows a corresponding change from 5a.

(The said Exhibits 6 and 6a were filed by the witness as [fol. 252] part of his testimony, and are attached hereto as part hereof.)

Exhibits Uebelacker No. 7 and No. 7a show the average price, and, separately, domestic and industrial prices, based on the 1923 expense and investment, after making a suitable correction in the gross receipts to allow for the effect of the increased rate as specified in the schedule already filed by the company, on the consumption of gas by domestic consumers. It is well established that any increase in rate results, in the course of perhaps not the first season, before the people realize the effect, but eventually in a decreased domestic consumption, which bears a certain fairly defined relation to the rate asked; and this decrease in the amount of gas consumed domestically should the increased rate be put into effect is reflected in these exhibits 7 and 7a, and the same are attached hereto and made part hereof.

Exhibits Uebelacker No. 8 and Uebelacker No. 8a show the effect on the income of making the above corrections previously considered, first, the allowance for the responsibility of the gasoline production for a certain amount of the production and transmission expense and investment, and, secondly, the effect of the increase in the domestic [fol. 253] rates asked for in the schedule already filed by the company on the consumption of gas by domestic consumers, Exhibit No. 8 giving the average effect on industrial plus domestic, and No. 8a giving the effect in detail on domestic and industrial prices.

(Exhibits 8 and 8a were filed by the witness as part of his testimony, and are attached hereto as part hereof.)

All of these statements, Uebelacker Nos. 5 to 8a, inclusive, are calculated in the same manner as was explained for Exhibit Uebelacker No. 5.

Referring to Uebelacker Exhibit 5a, which is a consideration of the 1923 business allocating to the domestic and industrial business their respective responsibility on the basis of maximum demand, the effect as to the resulting rate is, that on the basis of an 8 per cent return on the reproduction new value of the property a domestic rate of 47.8 cents and an industrial rate of 21.9 cents; on the basis of 8 per cent return less observed deterioration, a domestic rate of 46.44 and industrial rate of 21.50 cents; on the basis of a 10 per cent return on the cost of reproduction new, a domestic rate of 52.53 cents, and an industrial rate of 23.56 cents; on the basis of a 10 per cent return on the cost of reproduc- [fol. 254] tion new less observed deterioration, a domestic rate of 50.83 cents, and an industrial rate of 23.07 cents; per cent return on existing rate, on the basis of reproduction new, domestic 3.115 per cent (minus), industrial a plus of 4.404 per cent; on the basis of reproduction new less observed deterioration, domestic a minus of 3.36 per cent, industrial a plus of 4.68 per cent.

The witness testified in regard to the higher rate required for domestic service than for industrial service as follows:

At times of severe cold weather, the domestic service requires at least three quarters of the capacity of the plant. On the other hand, the annual sales to domestic customers Virginia; so that the investment responsibility and large

are about half of the total sales to customers in West proportion of expense, which is fixed, three quarters of those are incurred on account of domestic sales and only one quarter are incurred on account of industrial sales; whereas, on the other hand, domestic sales and industrial sales in this particular year are nearly the same. So, when you use as a divisor half of the gas sold with one quarter of certain of the expenses and investment responsibility, the resulting cost per thousand is very much lower [fol. 255] than when you use as a divisor one half of the gas as against three quarters of certain fixed expense and investment responsibility.

That this statement is made specifically with reference to the plant of the United Fuel Gas Company and is derived from information obtained from its records, and is contained in Exhibit Uebelacker 5a above referred to; that the Exhibit 5a represents his best judgment as to how this investment and expense should be allocated as between the domestic and industrial consumers connected with the particular plant involved. Exhibits Uebelacker No. 6 and 6a are explained by the witness as follows.

In Exhibits Nos. 6 and 6a we have determined by the same method as employed in Nos. 5 and 5a the average price for gas and the price for domestic consumers and industrial consumers separately after making a deduction from the investment in production, plant, and expenses, and the investment in transmission plant and expenses, of three per cent to represent the use made of production plant (as distinct from the value of gas reserves) and transmission plant, for the production and transmission of that portion of the gas which is removed in the extraction of gasoline. [fol. 256] Otherwise the statements are along the same lines as 5 and 5a.

That the 3 per cent. deduction on account of gasoline referred to by the witness was not applied to that portion of the transmission plant which is beyond the last gasoline extraction plant and consequently handles only dry gas; that it was applied to all parts of the transportation system through which gas containing gasoline was transported, and that the reason for using the 3 per cent. for this purpose was that the extraction of one gallon of gasoline per thousand cubic feet, varying according to circum-

stances, will reduce the volume somewhere between 31 and 45 cubic feet on the thousand; and in the case of United Fuel Gas Company it is assumed that there is one gallon of gasoline per thousand cubic feet, and in the judgment of the witness 3 per cent. would represent the maximum of shrinkage in gas of this particular company resulting from the extraction of gasoline. Further, attention should be drawn to the fact that the volume of recoverable gas in the reserves does not include as a part of that reserve this shrinkage of 3 per cent. in the gas resulting from the extraction of gasoline; that is to say, if the gasoline content contained in the reserves were included, the calcula- [fol. 257] tion would be at least 2 per cent. more than that used by the witness as found by Mr. Davis. The theory upon which this 3 per cent. is used in dividing the expenditure incurred between the production of gasoline and the production and transportation of gas for sale to the public, is upon the basis of the use made for the two purposes of the property. If the 3 per cent. which is considered as disappearing in the production of gasoline were not produced at all it would not decrease in any way either the production or transmission expense or investment. It is such a small amount that it is, you might say, within the limit of error in metering. The ordinary allowance for error in meters is about the same, in some states 2 per cent. and in other states 3 per cent., plus or minus. This volume is so small that you could not really meter it and say you had the exact amount.

The extraction of the gasoline makes the gas more suitable for transmission, in that it eliminates that portion of the gas which might be left in the transmission lines and both hold up transmission and attack the rubbers in the joints, and also slightly reduces the heating value of the gas something under 2 per cent., as I recall it. My recollection of the figure is that by the extraction of the gasoline the B. T. U's are reduced about 17 per thousand cubic [fol. 258] feet, which would be in the neighborhood of 1.7 per cent, and this would not have any practical effect upon the quality of the gas. That prior to the introduction of the treatment of the gas for removal of the gasoline there was considerable trouble experienced by the collection of liquid in the lines at the low points, and there was also

considerable trouble experienced on account of the eating out of the rubbers in the joints due to this excess of liquid, and there was also a very considerable loss of the gas produced because the drips had to be blown frequently. As to just the per cent. of that loss of gas no statement could be made, but the frequent blowing of the drips in cold weather resulted in a very considerable loss of gas. The net result of the application of 3 per cent. for the extraction of gasoline, as applied to Exhibits 6 and 6a, is that on the basis of reproduction cost new and 8 per cent. return in the average price between domestic and industrial, is the difference between 36.1 cents and 35.7 cents, or about 4 cents per thousand, and that is what Exhibit No. 6 is designed to show. Exhibit 6a shows the same thing, and in addition allocates the net result as between domestic and industrial consumers, which shows that for domestic [fol. 259] consumers, on the basis of reproduction new and 8 per cent. return, the difference is that between 47.8 cents and 47.2 cents, or a difference of .6 of 1 cent, and, similarly, on industrial the difference is that between 21.9 and 21.6, or a difference of .3 of 1 cent per thousand cubic feet. This difference is also carried out in the rate of return in exhibits 6 and 6a.

Exhibits Nos. 7 and 7a take into account in the gross statement of income the probable decrease in domestic consumption resulting from increasing the rate over the rate at present in force to that requested by the company in its recently filed schedule, so far as domestic consumption is concerned—that is, an increase in the domestic rate from about 21 cents to about 38 cents. Otherwise the exhibits are the same. The net result of these calculations, comparing exhibit No. 5, based on an 8 per cent. return and reproduction new, with exhibit No. 7, shows a price of 39.4 cents as compared to 36.1 cents in exhibit No. 5, of an increase of 2.94 cents. Exhibit No. 7a, as compared with exhibit No. 5a, based upon an 8 per cent. return and reproduction new, shows for domestic rates, on exhibit No. 7a, a rate of 60.4 cents as compared with the rate of 47.8 cents in exhibit 5a, or an increase of 12.6. Similarly, on [fol. 260] industrial rates, exhibit No. 5a shows a rate of 21.9 cents, and exhibit No. 7a shows a rate of 22.8, or an increase of 1 cent per thousand cubic feet. Exhibits Nos.

7 and 7a also show, near the conclusion, the rate of return on the West Virginia property with the adjustments which have been above indicated. In Exhibits Nos. 8 and 8a the average price per thousand, in No. 8, and the industrial and domestic rates separately, in No. 8a, are shown, after allowing both for the effect of the increased rates on domestic consumption and for the adjustment by deducting 3 per cent. on account of gasoline extraction of certain portions of the investment and certain portions of the expense. The only difference between these exhibits and 7 and 7a is the application of the 3 per cent. for the extraction of gasoline. The net result of statement No. 8, as compared with statement No. 6, which would be the corresponding statement, shows an average rate on 8 per cent. return on reproduction new of 35.6 cents, whereas statement No. 8 shows an average price of 38.59, or an increase of 2.99 cents, and statements No. 8a, as compared with statement No. 6a on the basis of an 8 per cent. return and reproduction new, shows a domestic rate of 59.74 cents for 8a as [fol. 261] compared to 47.25 on 6a, or an increase of 12.49 cents, and for industrial rates 21.59 cents on statement 6a as compared to 22.47 cents on statement 8a, or an increase of .88 cents.

In connection with these adjustments which have been made on supposed result of the diminishing use of gas per customer by domestic consumers by reason of the higher rate, I have realized for a great many years that the use of any service was more or less proportioned to the rate charged for that service. Beginning in about 1920, and keeping it up to date as additional information came into our office, the witness began to make a study to see whether it could be determined what a fairly accurate relation was between the consumption of natural gas and the rate charged for natural gas, specifically, now, as compared to other service; and the result of that study, which is based on the examination of the effect of varying domestic rates on the consumption in a number of cities, is illustrated in a graph which the witness filed as part of his testimony marked Exhibit Uebelacker 7B, and which is attached hereto as part hereof. This diagram, Exhibit Uebelacker 7B, shows the relation between the annual average consumption of gas by domestic consumers and the price charged for gas.

The vertical measurements on the graph represent the [fol. 262] consumption per domestic consumer per year in thousands of cubic feet. The horizontal measurements represent the corresponding retail prices per thousand cubic feet. The above statement refers to the curve marked "P-C" on the graph. There is also on the diagram another curve marked "P-E" which represents the gross business per year per customer resulting from the multiplication of the number of thousands indicated on the vertical scale by the corresponding rates in cents per thousand indicated by the curve "P-C"; that he has checked the consumption of gas by domestic customers in the State of West Virginia on United Fuel Gas Company distribution systems against the prices and consumption as indicated on this graph, which was prepared before he started his investigation of the United Fuel Company's system, and finds that they check fairly closely with the prediction that would have been made from the curve for consumption at the prices charged; that at the rate charged by the United Fuel Gas Company the consumption falls fairly uniformly on the graph. The graph referred to is based on information from the Dominion Gas Company of Canada, the East Ohio Gas Company, of Cleveland, Ohio; the Kansas City Gas Company, of Kansas City, Missouri, and many more locations that were taken into account; [fol. 263] that it so happens that the range of rates in the Kansas City Company has been the widest of any company its size to whose records witness had access; that it has gone since 1912 from 25 cents up to 85 cents per thousand, so that gives the widest range of rates from which to observe the effect of the operation of rates on consumption in one locality. The said graph refers entirely to natural gas, and in no instance does it refer to artificial gas at all. In the experience of the witness the situation represented by the graph is typical of the natural gas industry throughout the country; that there might be individual instances that would fall off the curve on account of variation; that, for instance, in Calgary, Alberta, with a price around 50 cents per thousand, there was a consumption of over 300 thousand per domestic consumer per year, but zero weather is the rule there for eight months, and the situation is entirely different from the location on which the graph is

based. Individual instances of that kind might be found where the graph would not apply, but it represents the experience in the north central states.

That referring to the summary of valuation introduced in evidence as Uelselacker Exhibit No. 1, showing the repro- [fol. 264] duction cost new of the property and the same reproduction cost less observed deterioration, the witness states that in view of the fact that from his observation the plant was functioning 100 per cent efficiently—in other words, it was able to do 100 per cent of what a new plant or its equivalent would do—he considered the cost of reproduction new without any deduction for observed condition would be the correct measure of the value of the plant—in other words, as to functioning power the plant had not deteriorated; that the plant as a going plant would be worth the reproduction cost new; that as a dead plant this would not apply, but as a going concern, with customers connected and the plant in condition to give 100 per cent service, he would consider the reproduction cost the measure of the value of the plant; that to the best of his knowledge he has been cautious, including nothing in any of the reports that he was not convinced were actual facts; where there was any doubt he tried to be conservative, to take the lower rather than the higher figures, and that so far as the prices and values are concerned they represent his best judgment; that there is nothing included in any of the inventories or statements for value for the gasoline plants conveyed by the United Fuel Gas Company to the [fol. 265] Virginian Gasoline and Oil Company; that he made a valuation of these plants, which is contained in two volumes, and which included the gasoline extraction plants and pipe connections associated with them. It does not include any of the oil producing plants, nor any item of value for gas in the ground, nor does it include any item for gasoline reserves in gas acreage owned by the United Fuel Gas Company, but simply the value of the physical gasoline plants and the pipes and appliances used in connection therewith, and is not included in any way in the valuation of United Fuel Gas Company property. That in making said valuation of the Virginian Gasoline and Oil Company property he used precisely the same method as to which he has testified in regard to the United Fuel Gas Company

property; that the equipment is of apparently recent construction; that the reproduction cost new, including $350,000.00 for working capital as of December 31, 1923, of said plants of the Virginian Gasoline and Oil Company, is $2,771,250.00, and that the value of the same less observed deterioration is $2,399,561.00, that being the total value of the plants whether located in West Virginia or Kentucky; that the detailed inventory of the items of property is contained in two volumes, which the witness [fol. 266] filed with his testimony as Uebelacker Exhibit No. 9.

(Inasmuch as there is no dispute as to the value of the property included in the inventory Exhibit No. 9, but that the same is admitted to be correct, it is deemed unnecessary to include the said inventory herewith, and for that reason the same is omitted and only the total figures shown, as above.)

That the witness has made a calculation of the effect of the rates found by him to be necessary to produce the returns indicated in his report by crediting the expenses of the United Fuel Gas Company with one-half of the net gasoline earnings of the Virginian Gasoline and Oil Company, and that by crediting such expenses with one-half of the net gasoline earnings for the year 1923 the result would be a reduction of 1.984 cents per thousand cubic feet in the average price of gas required to produce an 8 per cent. or a 10 per cent. return; that considering the gasoline earnings for the year ended April 30, 1924, the last figures available for twelve consecutive months, the result of such a credit in revising the figures heretofore quoted as to the average price necessary to get an 8 or 10 per cent. return would be a reduction in the selling price of 1.69 cents per thou- [fol. 267] sand cubic feet. On the basis of the application of the existing contract for the sale of gasoline for the ensuing year up to April 30, 1925—that is, the ensuing twelve months—and the estimated production of gasoline, that reduction in the average price of gas per thousand would be reduced to 1.39 cents; and in making this estimate the witness assumes that the production would be the same as in the year 1923. That in the last year or more the price of gasoline sold by the Virginian Gasoline and Oil Company

has been dropping, and from present indications of the tendency that fall has nearly hit bottom.

(The above testimony of the witness Uebelacker was given on the 29th day of May 1924. Said hearing was resumed before the said Public Service Commission on the 30th day of June 1924, and the said Uebelacker used as a witness on that date, and in order that his testimony may appear consecutively in this record, the testimony given by him on that occasion is here inserted, in substance and effect, as follows.)

That in making up the exhibits 5 to 8a, inclusive, the witness used certain working papers taken from the records and books of the company, which are offered in evidence [fol. 268] as Uebelacker Exhibit No. 10 for the purpose of assisting the engineer expert and expert accountant of the defendants in checking the inventories and appraisals of Mr. Uebelacker.

(Inasmuch as it appears from the testimony of W. J. Hagenah, the engineer expert of the defendants, and John Jirgal, the expert accountant of the defendants, that all of these figures so used by Mr. Uebelacker in making up his reports are correct, as found by these witnesses, it is deemed unnecessary to include these working papers in the record, and for that reason said exhibit is omitted therefrom.)

That since he had testified on the previous occasion, as shown above, he has made up a statement showing the effect on the earnings of the United Fuel Gas Company by including therein 50 per cent. of the net receipts from the sale of gasoline, and also by including therein a one-eighth royalty upon the production of gasoline, for the year ended December 31, 1923, and also for the year ended April 30, 1924, and also, for the latter period, on the basis of a sale of all of the gasoline produced during that period at a price of 14 cents, which statements are filed as part of the witness's testimony, and are attached hereto, consisting of three [fol. 269] sheets, marked Uebelacker Exhibit No. 11.

(That another hearing was had in said cause before said Public Service Commission on the 22d day of January 1925,

at which the said witness Uebelacker again testified, and in order that all of his testimony may appear consecutively in this record, the testimony given by him on that occasion is here reproduced, in substance and effect, as follows.)

The witness testified as to the result of experiments made as to the relative efficiency and convenience of natural gas as a fuel as compared with other substances used for fuel purposes, either as domestic fuel or industrial fuel, and stated in connection therewith the following:

There was made in Cleveland in 1923 a series of tests on a standard house heating boiler, first, the ordinary so-called furnace oil with one of the commercial burners, natural gas, anthracite coal, and bituminous coal. These tests were all run on the same boiler, and were run at constant loads, that is, they indicated the relative combustion efficiency of the different fuels but not necessarily the over all or useful [fol. 270] efficiency. In other words, they simply indicated the proportion of the heat units contained in the different fuels which were useful, turned into steam in the boiler. That has given me a comparison of the combustion efficiency of oil and of natural gas, and in those tests they were found to be 72 per cent efficiency for oil as against 71 and I think it was two or three tenths for natural gas. In other words, the difference was within the limit of error in a test of that nature; you would consider them practically the same. They also gave me a relation between the combustion efficiency of bituminous coal and anthracite coal.

I have used in my own dwelling for the last two and one-half years an oil burner burning similar oil to that which was used in the test in Pittsburgh (?), and from my experience of some 15 or 16 years in that dwelling, where I previously used anthracite coal, I have found that the over-all efficiency of the fuel oil, which would be practically the same as the over-all efficiency of natural gas under the same circumstances, as indicated by those Cleveland tests, was the equivalent of about 120 gallons of oil burned where I had previously burned, in the same dwelling and under the same conditions, one ton of anthracite coal.

[fol. 271] Now, that relation takes into account not only the relative combustion efficiency of the two fuels, but also what you might call utility efficiency, and represents, as

well as the increasing combustion efficiency, the decreased use of fuel which results from having no stand-by, so-called, losses, in other words, no banking losses. With a coal fire when we wish to raise the temperature, a certain amount of coal is burned in raising the temperature of the mass of fuel in the fire box, and at the same time when we shut off the drafts a certain amount of coal is burned while that temperature goes down; whereas, with the gaseous or liquid fuel, controlled by a thermostat, the response is instantaneous. The minute the temperature rises to a certain point the fire is entirely shut off, leaving only a pilot light to insure reignition, and when the temperature drops, the fire is instantly all on. Now, the net result of the equivalents of 120 gallons of oil per ton of anthracite is that the amount of heat units in a gram of oil, —or it was the same in gas, as indicated in the Cleveland experiments, necessary to perform the same work in anthracite coal, is only 65 per cent, 65.7, I think, exactly. Bituminous coal is not as efficient in combustion in the ordinary household furnace [fol. 272] as anthracite coal. The tests in Cleveland show about sixty, I think, sixty-three or four per cent efficiency for anthracite coal as straight combustion efficiency, but at 52 combustion efficiency for bituminous coal. However, the conditions—I think their finding was a little wide—I think it would be more nearly 60 as compared to 63 for anthracite. Now, applying that ratio to the 65 per cent over all efficiency, that is utility efficiency, which was the result of my own experience, in my own dwelling, as compared to oil and anthracite, and I want to keep plainly in the record that there is a most exact equivalent between oil and gas. The net result of applying that decreased efficiency of bituminous coal to the 65 per cent of over-all efficiency of oil, the 65 per cent of heat units that were required in the form of oil that were required in the form of anthracite coal, is to give a net result of heat units in the form of oil that were required in the form of bituminous coal in house heating or about, out of the heat units, to give the net results of the volume of natural gas in house heating required to perform the same amount of work that would be performed by one ton of coal as 15,000 cubic feet.

[fol. 273] I also checked that by some experiments which were made under our directions in Edmonton, about a year ago, and the result was just about 15,000 cubic feet. In

other words, from the two sets of experiments made in Cleveland and in Edmonton, and from my own personal experience in handling the heating of my own house, the conclusion in house heating, taking into account the fact that the liquid fuel or gaseous fuel is controlled instantly and does not have to be brought up to temperature and then lowered again as the heating requirements change, was to the effect that about 15,000 cubic feet was the equivalent of a ton of bituminous coal.

That the above calculation did not take into consideration the other conveniences and saving in the use of gas as compared with coal, but represents the straight fuel equivalent calculation; that the expense of bringing the coal into the place where it is used, carrying out the ashes, and firing the coal into the furnace, would have to be taken into consideration in addition to the above; that back before the war the above items used to cost about $5 a month, allowing for a man to come in the morning and evening and tend the fire twice a day; that the witness does not know what it would cost today; that his individual experience was [fol. 274] that he burned a little in excess of 25 tons of anthracite coal for the heating season of five months, which would amount to practically $25 for services for the five months, or about $1 a ton; that the Cleveland test showed that the efficiency of oil and natural gas was about the same, and that applying the result of that Cleveland test or efficiency test to bituminous coal showed that one ton of bituminous coal was the equivalent in efficiency of about 15,000 cubic feet of natural gas.

(There was no cross-examination of this witness.)

Ralph E. Davis testified in substance and effect as follows at the hearing before the Public Service Commission of West Virginia on May 30, 1924:

That he lives in Pittsburgh, Pennsylvania, and is a consulting engineer, engaged in engineering work for a number of years, involving a study of natural gas and oil properties, and particularly the land and the reserve values of those properties; that he graduated in 1906 from the Engineering College of Wisconsin University and went into min-

ing work, first in the southeastern Wisconsin lead and zinc fields, occupying various positions, beginning as a miner, [fol. 275] and later superintendent of the mine; that he then went to Butte, Montana, as geologist for the Pittsburgh and Montana Copper Company, and about a year later was made chief engineer of that company, and remained in its employ for a little more than three years; that he then returned to the employ of the Vinegar Hill Zinc Company, for which he had worked in Wisconsin, in the capacity of consulting engineer; that he made examinations for that company of mining properties in a number of states, particularly for the purpose of advising it in regard to a policy of expansion—that is, as to whether or not they should acquire particular properties—and also to advise them in regard to the probable available reserves of zinc ore then known, so that they might formulate an idea as to what the market for zinc ore was likely to be during the next few years; that this work led him into work for that company and a number of other companies in a general consulting capacity; that in 1911 he became director of the Wisconsin Mining School, and while in that capacity personally gave the instruction in applied geology; that he continued his practice with geological work, and as geology became more [fol. 276] and more recognized as of important to oil companies, his work took him into most of the important fields of the country; that he personally examined properties back in that period, either oil or gas, in Pennsylvania, Ohio, Kentucky, Oklahoma, Wyoming, Louisiana, Texas and Mexico; that after the Federal Government adopted the tax law generally known as the law of 1918 it became necessary for the oil and natural gas companies of this country, and for mining companies generally, to have an appraisal made of their producing properties, and in conjunction with that it became necessary to determine, in so far as it might be possible to determine, the reserves, oil reserves in the case of oil property, gas reserves in the case of gas property, copper ore in the case of copper mines. By this term "reserves" is meant the gas, oil, or whatever the case may be, which is controlled by the particular company underground in connection with their production; that his experience permitted him to engage in that work, which then became important, and for the last four or five years he has been engaged largely in the determination of reserves, particularly

for natural gas companies and for oil companies, and to some extent for mining companies, and in the valuation of their properties, in order that they might comply with the [fol. 277] requirements of the Federal tax laws; that in addition to that he has made a number of examinations for the purpose of advising, in most cases the owner, as to the reserves of such property; that in some cases he has made such examinations of property not owned by his employer, but which such employer considered the possibility of acquiring, with a view to the advisability of such purchase; that he has never made any report at any time for the purpose of starting a stock selling campaign; that he has made studies of this kind for Hope Natural Gas Company, Reserve Gas Company, Peoples Natural Gas Company, East Ohio Gas Company, Carnegie Natural Gas Company, Manufacturers Light and Heat Company, Union Natural Gas Corporation, American Natural Gas Company, Clarksburg Light and Heat Company, Iroquois Natural Gas Company of Buffalo, New York, United Fuel Gas Company and Columbia Gas and Electric Company, merely including in this gas companies; that these companies embrace more than half of the Appalachian field.

That about three years ago he was retained by the United Fuel Gas Company to make a study of its producing property; that the purpose of that study was that the value might be determined and depletion determined in accordance with the Federal tax laws and the regulations there- [fol. 278] under; that some time thereafter he was asked by the management to extend that study so that it might embrace the entire property of the company; that the treasury regulations permit depletion of the producing property—that is, the property from which gas is being taken—and that is the reason that the first study covered only that portion of the property; that the second study was made for the purpose of advising the management as to the other property which they held and which was only partially tested, and this study required a period roughly of three-quarters of a year, in which work he was assisted by a number of members of his staff, possibly three men working for three-quarters of a year; that use was made of all the data that was available, including the reports and maps of the United States Geological Survey, the reports and maps of the State of West Virginia, the maps of the United Fuel

Gas Company, and all the information and files of the United Fuel Gas Company.

That deduction on account of depletion for income tax purposes levied by the Federal Government is controlled by article 211 of the Treasury Department's regulations 62, (1922 edition), which article 211 is as follows:

"Art. 211. Computation of deduction for depletion of gas [fol. 279] well—On account of the peculiar conditions surrounding the production of natural gas it will be necessary to compute the depletion allowance for gas properties by methods suitable to the particular cases in question and acceptable to the Commissioner. Usually the depletion of natural gas properties should be computed on the basis of decline in closed or rock pressure, taking into account the effects of water encroachment and any other modifying factors. The gas producer will be expected to compute the depletion as accurately as possible and submit with his return a description of the method by which the computation was made. The following formula, in which the units of gas are pounds per square inch of closed pressure, is recommended: The quotient of the capital account recoverable through depletion allowances to the end of the taxable year divided by the sum of the pressures at the beginning of the year plus the sum of initial pressures of new wells and less the sum of the pressures at the time of expected abandonment (which quotient is the unit cost) multiplied by the sum of the pressures at the beginning of the taxable year plus the sum of the initial pressures of new wells and less the sum of the pressures at the end of the tax years equals the depletion sustained for the taxable year. [fol. 280] The depletion for the taxable year is subject, however, to the limitations contained in article 201 (h)."

That he undertook to compile the data above referred to by him, not in compliance with this regulation particularly, but in compliance with the request of the company that he prepare a study and report showing the present reserves of the United Fuel Gas Company, the value of these reserves, and the depletion properly allowable, these being things necessary under the regulations, of which he informed himself in order to determine whether or not the peculiar circumstances of the property made it feasible to

follow this particular method; that the latter study made by him above, including all of the property of the company, had no particular relation to the Treasury Department regulation, but was very much broader than the work required for that purpose. The witness then displayed a large outline map of acreage controlled by United Fuel Gas Company, also oil pools and gas pools within said territory and classification of acreage, dated January 1st, 1924, to be used in connection with his testimony, and stated that he was asked to make a complete study of the territory held by the United Fuel Gas Company and to make use of every method that he thought useful. That the work began by [fol. 281] gathering together all of the available information that was in published form, reports already referred to above, and systematic review of these reports, in order that he might be completely advised of these studies and in order that duplication of work might not be unnecessarily made; that he studied the gas fields of the Appalachian field generally, first to determine what relation might exist between evident structural features of the country and the location of both oil and gas pools; that that study was made, and from the records of the wells drilled by the United Fuel Gas Company he was able to prepare some detailed structural maps of the area in which the company held acreage, and that he did prepare such maps; that every well and every dry hole that has been drilled by the United Fuel Gas Company, and, for that matter, by any competitor, so far as knowledge thereof could be obtained, was plotted on these maps, excepting only the oil wells, which are for convenience grouped into units, and by proper symbols the oil producing areas are denoted; that as a result of the gathering of this information, the plotting of all the producing wells and all dry holes, the mapping of the structure, both as revealed at the surface and as revealed from the formations punctured by drilling, [fol. 282] the area in question was divided into four classes, proven, either for oil or gas, probable, either in some cases for oil and in others for gas, and into acreage which appeared to have some value as prospective territory, and into acreage which appeared to be unfavorable. The large map marked Map No. 1 is a map on a reduced scale showing the whole territory by these major classifications within

the Kentucky-West Virginia border, and the scale is two miles to the inch. The object of this map is to present in summary form a picture of the entire area. The various geographical subdivisions are indicated on the map. This map shows two principal features of the territory as determined from the studies made. The areas enclosed in the red or pink border are the areas that have been classed as proven territory. It will be noted that there are several areas of this kind. The areas enclosed in blue border are those which have been classed as probable territory. The territories held outside of these two areas are either possible or unfavorable, and for the purpose of the study are not shown on this summary sheet. This map is marked "Outline Map of Acreage Controlled by United Fuel Gas Company, also Oil Pools and Gas Pools within said Territory, and Classification of Acreage, January 1st, 1924," [fol. 283] and is filed with the evidence of the witness and attached hereto as part hereof.

That wherever on this map acreage has been classified as either proven or probable there appears a numeral in each square, and that numeral indicates the number of square miles of territory controlled by the United Fuel Gas Company within that square.

The witness then produced another map and in regard thereto stated that it was one of five sheets of similar size which covered the same general territory that is indicated on the first map, the scale on the five maps so introduced being double that of the first map, and the same being prepared on this enlarged scale in order that each gas well and each dry hole might be shown in convenient form. The first of these maps is the more northerly part of the gas territory, on which is shown the town of Spencer, the town of Clendenin not being on this map. By reference to the small scale key map the location of any point shown on the large scale maps may be found upon the outline map above referred to. Every gas well is shown by a circle colored red, and if that gas well be owned by the United Fuel Gas Company it has a numeral opposite it, and without a letter, as indicated by well No. 694, which is a United Fuel Gas Company well; that if a particular well be owned by a foreign [fol. 284] company—that is, a company other than the United Fuel Gas Company—it is in like manner indicated

by a circle enclosed in red designated by a numeral with the letter F, indicating that it is a foreign well. The purpose has been to provide all the information possible in this study of the territory. The oil wells have not been shown individually, except in rare instances, but are indicated for each group of oil wells by a cross, the size of the cross indicating the number of wells; the size of the arm of the cross indicates the number of oil wells in areas from which oil is being produced—that is, the proven oil territory. The areas shown in reddish color are the proven gas pools—that is, areas from which gas is being taken—and the areas shown in blue are those belonging to the probable territory.

The gas reserves of the United Fuel Gas Company have been estimated by two methods. One of the methods is applied to territory classed as proven, and the witness explains the method used in regard to this class of territory as follows:

We have available the past production of the United Fuel Gas Company, that is, the total gas sold in any year less the total gas purchased in the same year. In other [fol. 285] words, I dealt with the net amount of gas produced by the company and actually delivered to the consumers. I made no claim for additional gas because there may have been line loss or for the removal of gas in any way, excepting where gas might possibly, over a period, have been used in carbon black manufacture. That, however, is very small.

Knowing the total production of gas in a given year, we have found what portion of that gas was produced in that year by each of the gas wells. That calculation is simply one of arithmetic. The data used are the volume of the well itself, that is the volume of the tubing in the well, the minute pressure obtained when the well is closed in and the number of days in the year the well is used.

Of all these things the company has a record, that record going back to 1912, and my studies in which the gas has been allocated to individual wells, going back and including the year 1913.

The company has also a record (complete in most years) of the rock pressure of each well; not absolutely complete, but essentially complete.

With that information in hand, I was able to determine [fol. 286] what the production has been in each year for the several gas pools, or, for that matter, of each of the United Fuel Gas Company's portion of each pool. Merely by grouping a number of wells, we know what their production is in any given year; and by averaging the rock pressure of the same group of wells each year, we know what the average rock pressure of the group of wells is in each year.

I have found it necessary to study the wells in this territory by groups, that is grouping the wells, and for this reason. Were we to take the Spencer Pool beginning say in 1910 when the first wells were drilled—six wells were drilled in this portion of the pool (indicating), we find they have an apparently small production, and judging by these wells alone there is a fairly large drop in rock pressure. I will say that the initial rock pressure there was about 1,000 pounds and we find in a short time there was a loss of 100 pounds rock pressure and gas production had been so much (indicating on graph representing production of these wells.) If we had based our calculations on that particular data only we would have failed to take into account the reserves of this United Fuel Gas Company territory (indicating territory in Spencer Pool on map).

If as new wells were drilled we took into account their [fol. 287] production and their rock pressure, and as old wells were abandoned eliminated from our average their rock pressure, we have been going down through the years with a true picture of production but a distorted picture of the actual average rock pressure of the pool. The new wells in newer territory would have been added to our total and therefore would affect the average only after such wells were drilled, and the elimination of old wells abandoned after reaching the low rock pressure would have indicated a higher average remaining rock pressure than the true situation demands.

In order to eliminate this difficulty the territory has been divided into areas, each area having usually been drilled in a period extending over from one to three years. The average rock pressure of the wells in such limited portion of a pool is correctly reflected by averaging the pressures shown for each well in the area—the average is not affected by bringing into the average the pressure of a new well

drilled in a distant portion of the pool. New wells may be drilled in such an area during the later years of its production. We find that such wells have a rock pressure similar to that of the other wells in the same area, hence they do not distort the rock pressure average used in estimating re- [fol. 288] serves. At this point I would like to illustrate the use of production and average annual rock pressure of a particular group of wells by referring to this graph which shows graphically the production and decline in rock pressure of a group of ten wells located in the Clendenin Pool (indicating). The circles along this line marked "pressure decline" show the average rock pressure in each year from 1913 to 1924. During the same period of time (1913-1924) these wells have produced approximately 4 billion feet of gas as indicated over here (indicating). Horizontal distances indicate production, vertical distances indicate decline in rock pressure. The graph shows a consistent decline in rock pressure as gas has been removed from the area in which these wells are located.

For these wells I have projected that line (indicating) in order that I might form an estimate of the reserve of that group of wells. The graph shows that Boyle's Law may be applied to the study of gas reserve in this territory. The gas reserve of proven territory is therefore based on the proposition that the same production will be obtained in the future for each loss of one pound rock pressure that has been obtained for a number of years in the past.

[fol. 289] This graph is similar to all other graphs prepared for each of the various areas of this proven territory. And I want to say that the reserve determined in the manner described (by subdividing the territory) is actually less than would be obtained were we to treat the territory as a whole. The method does not result in an increased estimate of reserve; on the other hand it indicates a smaller and in my judgment a much more accurate estimate.

Applying this method to the territory controlled by the United Fuel Gas Company and indicated as proven, it indicates total estimated reserves as of December 31, 1923, of 249.1 billion cubic feet. The acreage which has been classed as "probable," as will be noted from the map, is the acreage which lies a short distance from the proven acreage. To a considerable extent this acreage classed as

probable has actually been tested. The witness, indicating a particular area on the map, stated that in this particular area are more than 25 producing wells, and so in other parts of the territory that is classed as probable, saying further, I bring this point to your attention in order that you may not conceive the idea that the probable gas reserve is merely a possibility; it is, in one sense at least, partially [fol. 290] proven. The acreage is designated as probable and the reserve as probable because the witness had not been able to measure that reserve by the same clean-cut method applied to the proven acreage. In estimating the reserves of this probable territory, he first found what the production of gas—that is, what the total reserve gas—has been per acre in the nearby adjoining proven and developed acreage. In estimating the reserve area classed as probable he found what the reserve is on the nearby proven acreage. For example, referring to sheet No. 2, on which there is shown the greater portion of the Clendenin pool, the reserve of that pool, or the total production of that pool, has been determined as approximately 7.1 million cubic feet per square mile for each pound of rock pressure; that this determination was made by him. Referring again to sheet No. 3, let us say there is one square mile of territory classed as probable, and that that territory should be ranked as having a reserve which will produce 7.1 million feet per pound per square mile. The witness then determined what the gas reserve would be on that basis, and then modified that estimate, never increasing it, but generally decreasing it, to take into account the possibility [fol. 291] that some acreage may not prove productive, or that some gas will be drawn by competitors. The average discount applied to the entire probable acreage for this purpose has been 38 per cent. That the witness found what the reserves in this probable territory would be were it as good as the nearby proven territory, and then discounted that on the average 38 per cent to take account of the two things above referred to. That applying this method to the acreage indicated as probable, the witness finds that there is a total of 414.6 billion cubic feet of gas therein, making a total of 663.7 billion cubic feet in all of the acreage classed by him as proven and probable on the maps.

That he was present when Mr. Uebelacker testified, and that his report is the one referred to by that witness; that the gas reserve as set forth in his report is the net gas reserve that should reach the natural gas consumer; that the reason for this is that the United Fuel Gas Company has since 1915 recovered the gasoline; that the gas produced, carried to the consumer and sold had, during that period, been to a large extent stripped gas—that is, gas without the gasoline content—and the reserves are estimated on the basis of the past production and the decline in rock pressure, and inasmuch as this past production has [fol. 292] for this past six or seven years—seven or eight years—been stripped gas, the reserves as determined are therefore what would be stripped gas; that in making these estimates he has taken into consideration what others may do in adjoining territory; that in his study of the past he finds that the United Fuel Gas Company has taken the quantity of gas stated from this territory, and that the rock pressure has been reduced as shown in his report; that during the same period other operators have removed various quantities of gas; that having thus removed that gas, and the rock pressure of the area having been reduced to some extent, we assume that the same ratio of production from a given pool will be maintained in the future which has been maintained in recent years; that the witness knows of no circumstance which would indicate a change in this ratio for the future.

That the number of gas wells owned by the United Fuel Gas Company as of December 31, 1923, including those of the Warfield Natural Gas Company and the Cabin Creek Gas Company, is 796.7 wells, and that he has regarded the property of the Cabin Creek Gas Company and of the Warfield Natural Gas Company as identical with the property of the United Fuel Gas Company; that the slight discrepancy between his report as to the number of wells and [fol. 293] that of Mr. Uebelacker is accounted for by the fact that Mr. Uebelacker did not include some of the wells of the Cabin Creek Gas Company.

That the number of acres of proven territory, as indicated by the witness, is divided among the several pools as follows. In the Clendenin pool he considers 97,856 acres controlled by the United Fuel Gas Company to be proven

acreage; in the Spencer pool, 19,520 acres as proven; in the Kanawha pool, 3,136 acres; in the Triple-State pool in West Virginia, 3,257.6 acres, and in the Triple-State pool in Kentucky, 11,334.4 acres; in addition to which the Cabin Creek Gas Company has in the Kanawha pool 1280 acres which he considers proven, making a total of 136,384 acres; that of the acreage classified by the witness under the term "probable" there is in the Clendenin pool 38,912 acres, in the Spencer pool 8,640 acres, in the Kanawha pool 29,888 acres, in the Triple-State pool in West Virginia 236.8 acres, and in the Triple-State pool in Kentucky 7571.2 acres, and in various areas not designated as belonging to any of these pools, but located on the maps as indicated, 39,424 acres, in addition to which the Cabin Creek Gas Company has in the Kanawha pool 1536 acres, [fol. 294] making a total of 126,208 acres; that in addition to this, embraced in the two classes which he has mentioned as proven and probable, the company has 552,318.68 acres, making a total of 814,910.68 acres.

That he testified before the Public Service Commission of West Virginia about two years before he was then giving his testimony in regard to the proven acreage of the United Fuel Gas Company, and that the Commission considered the evidence given by him at that time as too speculative to be considered; that during the last two years in particular he has personally made studies for most of the gas companies named earlier in his testimony by methods similar to those above described; that these studies and the results thereof have been placed before the engineering division of the United States Internal Revenue Department at Washington, where they have been reviewed, and that in general the method used by him has been recognized by these engineers as essentially sound, and is accepted by the department as a basis for calculating the values upon which taxes are assessed; that the engineering division of the office of the Commissioner of Internal Revenue has reviewed such reports laid before it prepared by him for the United Fuel Gas Company, reports in which the reserves have been determined for the producing acreage, [fol. 295] as that is the only acreage on which the Commissioner of Internal Revenue allows depletion, and these engineers after reviewing these reports, have accepted the

same—that is to say, they have accepted the reserves as determined for certain parts of the field, and for other parts of the field such reserves have been reduced 10 per cent; that this only applies to proven or operated territory, as the Commissioner of Internal Revenue does not allow anything for depletion of territory not operated; that so far as his experience is concerned, since he testified formerly he made examinations of important gas territory, part of which was proven, part of which was not proven, and reached a conclusion regarding the probable future productivity of the same by methods similar to those above described for both classes of territory, which work was done for large gas interests which were guided to a material extent thereby; that the method used by him is a generally used method of comparatively recent origin, and is based on what is generally known as Boyle's Law and Boyle's Law states that the volume of gas varies inversely with the pressure, and that it has been accepted and recognized among scientific men as correct since the days of its [fol. 296] discovery by Robert Boyle, probably more than two hundred years ago, which simply means that the measure of pressure of the gas substance determines its volume; that the way this is applied is that the volume in a gas sand occupied by gas does not vary—at least, in this field it does not vary—during the removal of that gas—that is to say, the open space in the sand in which the gas is found remains equal in extent during the period of gas removal, dealing here with sand in which there is known to be practically no encroachment by surrounding water; that whatever amount of gas may have been originally in one of these pools, we judge that when the pressure has been reduced to any one half of the original pressure then one half of the original gas content remains; that he has found that practical gas men throughout the gas fields judge gas territory in part by the remaining rock pressure as compared to the earlier rock pressure; that this fact and the fact of past productive history of the pool have very great weight; that the two are and must be taken together, and he has considered both in the method employed by him; that this method is becoming recognized among gas men as very useful to them in not only observing the rate of de-

pletion of their own fields, but in considering the advis-
[fol. 297] ability of acquiring additional fields.

That he has assigned to the possible and unfavorable acreage no part of the 663.7 billion cubic feet; that he has made no estimate of the gas for that territory, as any estimate would be highly speculative; that it would have some probabilities; that he thinks there is no question but that part of that territory will be productive, by reason of the geological showing, by reason of the fact that it lies within this general gas belt, and by reason of the fact that since he made the classification of the territory and the maps based thereon he finds that there have been a few productive wells drilled in territory that he considered neither proven nor probable; that he made a different estimate in his testimony given on a prior occasion before the commission; that the reason of this was that he referred then alone to proven acreage, and so stated in the testimony, and to no other acreage; that he had not at that time made a study of the territory existent today or as to territory outside the proven acreage, but specifically at that time referred to the proven acreage of the company, and so stated; that the reserves estimated two years ago for proven acreage correspond fairly closely to the reserves stated in the
[fol. 298] exhibit now used by him for proven acreage, and that whatever difference there is in the relation of any figures is due to two things—that is, he had two years' additional information by which to be guided; that the territory for which probable reserves have been estimated was not referred to two years ago, and a considerable part of that territory has become probable as the result of drilling wells during recent years; that territory which he classed as probable at the time he prepared the maps introduced in evidence is now, in his judgment, practically proven, some parts of it probable, and the frequently of wells as illustrated on the maps in probable territory justifies that statement; that many an engineer, he thinks, would regard the territory indicated by him as probable to be proven territory; that he regards it as proven from the standpoint of wells that have been drilled and proven productive; certain areas of that portion that is proven which was proven at the time he made the gas classification, but he did not map it as proven in the sense that the producing pools

were proven; that the classification made by him in the maps is of December 31, 1923; that he has not paid much attention to what has been done since December 31, 1923; that the mapping of the probable territory was carried out [fol. 299] in the summer and fall of 1922, and that recently he took occasion to bring the maps up to date by placing on them all of the wells drilled since the date of the former work, and that the territory classed as probable in the acreage classification in his report of December 31, 1923, is exactly as it was in the report made to the company two years ago, except that in certain areas the company has acquired acreage, or in other areas has abandoned acreage, and my net amount of acreage shown in each area has been estimated, so that the adjusted figures I have given them are of December 31, 1923; that during the two years that have elapsed there has been a total of 215 wells drilled either by the United Fuel Gas Company or other companies in that territory which he classed and mapped as probable—that is, not necessarily within the acreage of the United Fuel Gas Company, but within the acreage shown on the map as probable—within the area of the same class of property as that of the United Fuel Gas Company; and that of these tests made 190 resulted in production and 25 have been dry hole; that this shows that the discount of 38 per cent given by the witness was excessive; that this discount, however, was to cover two things, the possibility of part of the area proving dry, and the other that a por- [fol. 300] tion of the gas would be removed by others; that he has prepared a comprehensive statement of a record of the logs of all the wells and their production, and various other facts about which he has been testifying, and the same is contained in a volume marked "United Fuel Gas Company, Report Showing General Geologic Description of Natural Gas Properties, Classification of Acreage, and Estimated Gas Reserve, as of December 31, 1923, Ralph E. Davis, Engineer, Pittsburgh, Pennsylvania," and also marked Davis Exhibit No. 1.

(Said report referred to by the witness, as well as the maps contained on six sheets, are filed as part hereof, the said report being marked Davis Exhibit No. 1 and the maps Davis Exhibit No. 2.)

(At a further hearing before said Public Service Commission on July 1st, 1924, the witness RALPH E. DAVIS further testified, and in order that all of his testimony may be shown consecutively it is here included, and is in substance and effect as follows:)

That he made up a report of the value of the gas reserves of the United Fuel Gas Company on a theory explained by the witness as follows:

I went on the assumption that the property of the United [fol. 301] Fuel Gas Company might be placed in use in whatever way is most advantageous to the owner of the property. That is, I considered what the present market demand is for natural gas. I considered whether that demand is sufficient to absorb the present output of the United Fuel Gas Company in markets that are at present more advantageous than some of the markets that are now being filled by the United Fuel Gas Company.

Among other such markets I considered the Pittsburgh market, where there is a large potential demand for natural gas. Among other industries, the steel industry does use considerable quantities of natural gas; and it is a recognized fact that were the natural gas industry in a position to supply a continuous supply of gas throughout the year, at fair price, much larger quantities might be used in that industry in that district.

I found, both from a study of the actual cost of producing steel by the use of coal and the actual cost of producing steel, melting steel, by the use of natural gas, the relative merits of these two fuels, and that study indicated that natural gas is worth at the present time about thirty-five cents per thousand when in competition with a good grade of soft coal.

I assumed, therefore, that the output of the United Fuel [fol. 302] Gas Company, were it able to deliver its gas to the Pittsburgh market, could be sold throughout the year at a price of not less than thirty-five cents to the industrial users, to steel manufacturers.

I have supplemented that study by inquiring into the present price actually paid by steel makers in the Pittsburgh district for natural gas and I find that the price is in the neighborhood of thirty-five cents. One steel company uses

several million feet of gas daily at a price of thirty-five cents at the present time.

Having in mind now the possibility of marketing gas in the Pittsburgh district for this particular service, it becomes necessary to consider what investment would be necessary to supply gas from the United Fuel Gas Company, as at present constituted, to the Pittsburgh market.

In reviewing the report recently prepared by Mr. Uebelacker, of the firm of Ford, Bacon & Davis, I found that he had made a calculation showing the investment necessary and the expected cost of delivering gas from Cedarville to Pittsburgh. I accepted that figure as a sound figure representing the probable future cost of delivering gas that distance.

It then became necessary to determine the actual cost of [fol. 303] the United Fuel Gas Company during some recent year, and I chose 1923, in the production and delivery of gas to Cedarville; and, again, I found that Mr. Uebelacker had covered that ground, and I accepted his figure as being a proper figure, one that I was sure was found in a correct manner and one that I would arrive at were I to make the same study that he had made.

The total cost of producing and transporting gas to Cedarville and carrying it from Cedarville to Pittsburgh, without including any earnings on the value of the property used, without including Federal Income Taxes, but including local taxes, overhead costs and depreciation, not including obsolescence, amounted, as I recall the figure, to about 14 cents. I can give you the figure exact if you will allow me to. The cost of transporting gas from Cedarville to Pittsburgh is $0.0526 per thousand cubic feet. The cost of producing and delivering the gas to Cedarville is $0.07989. These two costs give a total of 13¼ cents. It was my understanding from Mr. Uebelacker's figures that no line loss was taken into account between Cedarville and Pittsburgh, and, inasmuch as I thought that should be included as a cost, I allowed 1¾ cents per M as an additional cost. These three [fol. 304] figures total 15 cents, and that figure represents the cost, based on the 1923 experience of the United Fuel Gas Company and its subsidiaries, of producing and transporting gas to Cedarville, plus the probable cost of transporting gas from Cedarville to Pittsburgh, with the allow-

ance for line loss between Cedarville and Pittsburgh of 1¾ cents.

These costs include, as I have stated before, no allowance for earnings on the value of the property, nothing for Federal income taxes, nothing for amortization, but do include all other costs, including depreciation.

From this point, I have treated the property of the United Fuel Gas Company as engineers generally in valuing mineral property treat these properties. The usual method of valuation is to determine the present worth of the property, based upon the expected net earnings. The expected net earnings are estimated, being based upon proven reserves, probable reserves, estimated cost of production, either a fixed price for the output or a variable price, as may be justified by each case, and the rate of return expected by the investor.

From a study of the actual costs to the United Fuel Gas Company for some years past, I found that there is an upward trend in the cost of producing gas of approximately [fol. 305] one-quarter cent per thousand per year. I assumed that this trend will continue. I assumed that the value of gas in the Pittsburgh district will not change. That assumption does not represent my view of the future. I believe prices will change and will change upward.

I estimated the number of cubic feet of gas the United Fuel Gas Company may reasonably expect to purchase in the next eight years, basing that on chart in effect on January 1, 1924; and I estimated also the amount of gas that I believe they will be able to produce for the first eight years and thereafter for another ten years; I estimated the number of wells that I believe will be required to maintain the expected production, and the amount of new investment necessary; I assumed that the investor in this enterprise would require an annual return of 8 per cent.

That calculation, carried through, indicates a total value of the property which is being valued, leasehold property and the equipment now in place on that property which could be used in serving the Pittsburgh market, a total value of $52,181,538.17.

I have stated that the property for which this value is found includes certain equipment. Now, that equipment [fol. 306] consists of wells, well equipment, field lines, compressor stations, and a considerable portion, but by no

means all, of the transportation system, and certain general property, the total value of which has been determined by Ford, Bacon & Davis on the basis of reproduction value less depreciation to be $19,723,409.00. If the value of the leasehold property is desired the difference between these two figures is $32,458,129.17.

That calculation, I might observe, appears rather technical, but I would say that the method of valuing mineral property has been well established, particularly other types of mineral deposit. This method follows the accepted practice of the majority of mining engineers. The value which I have stated is, in my judgment, a fair value of that property.

That the value of gas reserve, as above determined by him, does not consider any particular acreage at any given amount per acre, but considers what the whole property as a unit is likely to produce in the way of earnings over a period of 18 years, and the amount of gas which the calculation assumes will be delivered from the United Fuel Gas Company's property in 18 years totals this 636 billion cubic feet; that he had shown in a previous report that the United [fol. 307] Fuel Gas Company's property contains a somewhat larger quantity of gas in the proven and probable territory, and from that it will appear, and it does appear, that the value indicated by him is the value indicated for that property, or the major part of that property; that this answer would be a sound answer if the United Fuel Gas Company did not own the entire 815,000 acres which it does own provided that it did own those selected portions of that property that he classed as proven or probable, and with that a considerable portion of the remaining acreage which would be held to protect the company's valuable acreage or average believed to be more likely valuable, and for the prospective value it might have itself; that he has confined his estimate in this calculation to a term of 18 years, but that he believes that it will require more than 18 years to exhaust the property and produce all the gas that can be produced from it; that in making the calculation he assumed the cost of production would increase from year to year but the price at which gas would be sold would remain stationary; that if the price at which gas could be sold from year to year should increase then this would have to be taken into ac-

count; that he has reduced the study indicated by him to writing, and files the same as part of his evidence marked [fol. 308] Exhibit Z, and the same is attached hereto as part hereof; that in the report filed by him, Exhibit 1 he took into consideration some of the territory of the Cabin Creek Gas Company, to wit, 8,005 acres, of which he classed 1,280 acres as proven, 1,536 acres as probable, and the remaining acreage was considered possible gas territory; that these amounts were less than given by the witness on a former occasion because of the fact that he found that the Cabin Creek Gas Company had produced approximately two thirds of the total gas that it could expect to produce from its proven acreage; that was as of December 31, 1923; that he did not even think of depleting the probable acreage at all, so he made an estimate of the quantity of recoverable gas that might be expected in the probable territory by determining how much gas could be recovered from it were it equally good as the territory that was proven, and then reduced that by 75 per cent.; that this large reduction was made for the reason that the Cabin Creek company had a considerable number of oil wells and gas wells which were removing the gas at rather a rapid rate, and it was his judgment that by the time the remaining probable acreage, what he technically called probable acreage, became drilled, the rock pressure in that acreage would be reduced to an aver- [fol. 309] age of a little more than a quarter of the original.

Cross-examination:

The witness was cross-examined on December 29, 1924, in substance and effect as follows:

That he had filed with his testimony certain maps, one showing the proven and probable productive gas fields, and another map of five sheets indicated the pool and the wells in the several territories; that he began to work on these maps about two years or possibly two and a half years ago; that none of the work on said maps or sheets nor the single additional map had been prepared at the time he testified before the commission in case No. 1251, but the work had been undertaken a month or two or three prior to that time and was then in progress, and was continued until all the data had been gotten together and then transferred to the

maps; that while the outline map is dated October 1st, 1922, he had brought this map up to date by plotting on it the additional data—that is, up to December 31, 1923; that the doing of this work did not change any of the pools, so far as he recollects, in any detail, but that if the work had been undertaken first as of the more recent date possibly he would have changed the areas which he calls proven to [fol. 310] some slight extent; that when he went to bring the work up to date he found that there had been a few wells drilled a very short distance beyond the territory classed as probable territory, which he considered uncertain territory, and in a few instances drilling had resulted in productive gas wells, and therefore if the work had been done as of last June this territory would have been mapped as proven and would have enlarged the proven gas area.

That the reference to the various pools contained in the testimony are indicated upon the map; that the Spencer pool includes the area in the most northeasterly corner of the outline map, extending from a point near the center of Jackson county and close to a symbol on the map "27" within a circle, and in a northeasterly direction, something like 24 miles beyond the point at the northern edge of the map and just east of a symbol "19" within a circle; that the Spencer pool, as he considered it, is a strip of territory, as just stated, 20 to 24 miles in length, and varying in width from about 1½ miles to 3 to 4 miles; that the Clendenin pool, as he considered that pool, is the largest area shown on the map having a red outline; that the town of Clendenin is in the south central portion of this pool, and it ex- [fol. 311] tends north from the town of Clendenin about 15 miles, south about 5 miles, east about 7 miles, and west an average distance of about 7 miles; that the Kanawha field, as he considered it, lies to the south of the Clendenin field, about 15 miles south of the town of Clendenin and a little to the west; that the Cabin Creek field lies further to the south some five or six miles; that it is shown on the map by an area enclosed in a green border, being primarily an oil field, for which reason it is shown in that manner; that the thirty-eight or thirty-nine thousand acres lying in these fields which he considered probable would include territory owned by the United Fuel Gas Company lying within any of the areas enclosed in a blue border;

that there is a territory extending in an east-west direction about 25 miles long and averaging possibly five or six miles in width extending from a point near a symbol on the map and figure "65" enclosed in a circle, and easterly, two or three miles beyond a symbol "67" enclosed in a circle; that the United Fuel Gas Company owns considerable acreage in that belt, and I consider that territory as a whole probable for the production of gas; that the territory outlined in blue, having within its lines the symbol "76," lies south of the above referred to territory, extend- [fol. 312] ing in a northeasterly-southwesterly direction some three-fourths within the confines of Boone County and a fourth or thereabouts in Lincoln County; that it is one of the fields in which the acreage is included in the lump sum of thirty-eight or thirty-nine thousand acres, so far as the company has territory therein; that it will be noted above that the company controls very little territory within that area; that the numerals within the various squares on the map indicate the number of square miles controlled by the United Fuel Gas Company within the respective squares, and do not indicate the amount of any particular class of acreage therein; that sometimes the square lies entirely within the probable territory, sometimes part of it is classed as probable and sometimes part as proven, and sometimes as possible; that unless all the acreage is either within or without the blue lines, we have estimated that the United Fuel Gas Company acreage within such a square lies partly in the probable and in part outside of the probable; that for example we have a square of which about 50 per cent. is within the blue lines, and another is a square in which only about 10 per cent. is within the blue lines; that in the latter case 10 per cent. of [fol. 313] the territory controlled by the United Fuel Gas Company within that square would be treated as probable, unless it appears that all of the territory, or a greater part of the territory, owned by the United Fuel was actually within the blue area; that the lavender color indicates that there are few gas wells within their borders; they are areas in which additional drilling is required in order that the gas may be commercially removed; that unless additional wells were drilled within these areas the gas would likely, to a large extent, travel to outside wells or be left in the

sand; that such areas are indicated on all of the large scale maps where they exist; that he applied one method in estimating the gas reserves in the proven territory and another method in estimating the gas reserves in the probable territory, and that the reason the first method was not used in the latter case is that there is insufficient data available from the territory in that classification to form the basis of the first method; that as to the method of estimating the proven territory, the company has maintained for many years practically all of the following data, some of which they have kept a careful record of since the date they began business—the total gas sales, the total gas purchases—and for the purpose of his study he assumed [fol. 314] that the gas produced by the company in the difference between the total gas sold, including that which it used in its own operations, and the gas purchased; that there is some gas lost in transmission and distribution; that the net figure which he arrived at fails to give credit to the company wells for gas which they certainly produce, but which was lost before reaching the consumer; that the company has tested the rock pressure in each year, with some exceptions, at all wells; that is, the well is shut in for such a period of time as to permit the taking of the pressure test, showing in each case how long the wells were shut in for each test; that the company's practice in this regard is very good; that the ascertainment of the rock pressure of a well or group of wells depends on the particular field and the particular well and that the practice of the company has been to a large extent in this respect guided by convenience; that it has been convenient to shut the wells in in August or Setpember, when the demand is for the minimum amount of gas, and it is the time of year when it is rather easy to shut in a large number of wells; the general practice has been to shut in the wells for a week or two; that in his work he took all the rock pressure data, and he regarded the rock pressure data obtained in August or September the most important, as revealing the true condition of the sands, the wells having been shut in [fol. 315] for a longer period at that time; that he took into account not only these rock pressures but all data available whenever taken; that in his judgment, generally speaking, all wells have been shut in for a sufficient time each year to

give in any case an accurate rock pressure reading, and in most cases a reading that is at least approximate; that in an area of 350 or 400 acres, with a half dozen wells, three of which were shut in and three not at the time the rock pressures were taken, there would be some effect, but not to a serious amount; it would tend to lower the readings instead of reading the true pressure, which we will say is 300 pounds; the effect of other wells being not shut in would reduce that pressure to 290 pounds, and the net result would be that it would be giving our field as a whole credit at the end of 1923 with a slightly lower rock pressure that we would have found had we been able to shut in each well for a sufficient time to allow the gas pressure to equalize; that it is true, were all wells shut in for two or three weeks, we would have a set of figures that would give us a slightly higher average than the average used by him; that he thinks the method used by the company is a practicable one to ascertain a fairly equalized pressure throughout the fields; and in explanation of these rock [fol. 316] pressure tests the following testimony is given verbatim.

Each of the several fields has been subdivided into areas which are indicated on the map. Each area is indicated by a letter. The purpose of this sub-grouping was to throw into single groups wells which have in a given year, and during several succeeding years, a similar rock pressure history. For example, anyone of the areas there in the Cabin Creek Pool, take Area "B," were we to refer to the detailed data, we would find that the several wells included in that group have approximately the same rock pressure in any given year; 1920 is about the same for the several wells; in 1923 again it is about the same and of course lower than in 1920.

The purpose of that sub-grouping is to eliminate a difficulty that arises if we do not so subdivide the field. I will illustrate that difficulty. When the Spencer pool was first drilled, the drilling was near the central portion of the field,—the rock pressure was about 1,000 pounds; after two or three years drilling, which extended only four or five miles, the rock pressure was brought down, according to the data, to about 800 pounds, and there had been a certain production. Were we to base our estimate of that

[fol. 317] date, on the data as then available, we might say with 200 pounds off the 1,000 pounds original pressure, 20 per cent of the gas has been withdrawn and 80 per cent remained. Now, as the years go by new wells are drilled, both east and west; the new wells come in at 1050 pounds and in some cases 950 pounds; we keep bringing into our areas new wells, giving new production, and maintaining our average rock pressure up, and finally when older wells are abandoned at a very low pressure they are thrown out, and we have in 1920 an average rock pressure of, say 200 pounds. If we study the thing by particular areas we can take this area from the date it began to produce, and come down through the years and see its future fairly clearly. The average rock pressure as determined by wells in that area is not subjected to error by the introduction of rock pressure readings taken ten miles away. Furthermore, we will study the gas reserve of the proven area; we know what they are, and if the proven area eventually becomes more extensive than we now find it to be, then there will be additional gas,—an additional quantity estimated for the several new units of this field.

Now, I have covered herethe detailed method of estimating gas reserves for proven territory. To this extent [fol. 318] the proven areas are subdivided, so we are dealing with individual groups of wells having a similar rock pressure history, and we find in each year the average rock pressure of that group of wells; second, the total gas credited to all wells in a given year is the net gas sold to consumers and used by the company, and over and above that which is purchased.

The next step is to determine what portion of the total gas produced is produced by the wells of a particular group. That is where we use the minute pressure, which has been spoken of. We desire to know——

Q. (Interrupting.) What do you mean by minute pressure? Explain that for the record.

A. The wells are feeding into a line having a line pressure of, let us say, 50 pounds. That of course will vary; different lines have different pressures, and the same line will have a greatly different pressure in the summer than it has in the winter. A given well is shut in and at the moment the valve is shut, the line pressure has been read,—

we will say that reading is 50 pounds, at the end of one minute the pressure on the well side of the valve is read,—that pressure may be 55 pounds; if the well is feeding into [fol. 319] the line it should show a pressure above line pressure at which it has been shut in; a two minute pressure would be one taken similarly and for a period of two minutes.

Q. What has been the practice of the company with reference to the pressure they have taken? Do they take one minute, three minute or five minute pressures?

A. That practice has varied from year to year. We find in some years the company has taken one minute pressures and a five minute pressure, and in another, certain other years, have failed to take one minute pressure but have taken five minute pressure.

For the purpose of the work we were doing we found it desirable to find out the general relation that exists between a pressure taken for one minute and one taken for five minutes, so that we could deal with the data within those years where we had only the five minute pressures, and in that way we have been able to let this study continue through the years from 1913 to 1923. Now, having for each well the minute pressure above line pressure, and the cubical content of the well,—that is the volume from the point where the valve is placed when the pressure is taken, to the bottom of the well, a simple calculation indicates what quantity of gas flows into that space in one minute; it [fol. 320] raises the pressure, let us say, 5 pounds; that is a fairly simple calculation. The company maintains also a record of the time that wells are used——

Q. (Interrupting.) By that you mean the number of days a year that it is feeding into the line?

A. Yes, sir. Now, we have for each well a calculated gas production per day. Knowing the number of days that well has been used, we can calculate the amount of gas it has produced theoretically per year; the total of that compared to the total found by deducting from gas sales your gas purchasers would indicate what correction factor should be applied to each well to either reduce or increase the theoretical output to what I will call the actual output. In that manner we found the production in each year for each well,

and by grouping the wells we found the production for a given group of wells in that year. We found the decline in rock pressure and the production in that group of wells for each year, and we find there exists a definite relation between the decline in rock pressure and the output of gas, for each unit of gas removed there is an equal—on the average an equal decline in rock pressure; each million feet removed from one of those areas in 1921 has the same [fol. 321] effect on rock pressure that a million feet has in 1923. That is true, on the average, as illustrated by the graphs which were submitted in this report.

Q. Do I understand you to say, take, for instance, the Spencer field: you stated a few moments ago as to how you grouped certain wells drilled a few years ago, and if a well was drilled to the east or north of this area, the rock pressure might be higher than the average of the group, after a million or five million or ten million feet is taken out of the hole, would there be the same proportion of a decrease in rock pressure of the newer drilled wells as the older drilled wells?

A. No, sir.

Q. Now, Mr. Davis, is there any other method used of which you are advised to ascertain the gas reserves in proven areas?

A. Yes, sir.

Q. What other method is used?

A. Another method of estimating gas reserves for proven areas will be to determine the output of that area in each year for such a period of years as you have the data: generally it would be that if the proven areas are as well drilled [fol. 322] up as most of our proven areas are, the output will show a decline from one year to the next year, and it has been, in the past particularly, considered good practice to develop a graph or a curve from the data just described, and by extending that graph or curve into the future judge the quantity of gas remaining.

Q. Is there a uniform decline from year to year, or is there a greater decline, say the first or second year, than there would be if the life of the well or the area was nine or ten years?

A. If we had an ideal condition under which the group of wells were being operated, the decline curve method

which I am describing should, I believe, give exactly the same result or thereabouts, as the rock pressure method, but the conditions are usually not ideal; the wells are used one year, say 340 days, in the succeeding year, say 280 days. Now, we have there a variable demand for the gas.

Q. A very uncertain future, isn't it?

A. Well, we sometimes overcome that difficulty by reducing our data to total production per day, and sometimes that is a very efficient aid. Another thing that makes the work very difficult, the application of this method very [fol. 323] difficult, and that is the variation in line pressure against which the wells deliver gas. This may be at one time, say 250 pounds, later 200 pounds, and at a still later time a lesser amount, it varies,—the wells become at times inactive and it is very difficult to make an estimate, when you know you are going to deliver in the future with a changing line pressure. I think it can be done but it is a laborious task.

Q. In this case nor in 1251 this latter method was not used, is that a fact?

A. I think in Case 1251 the method I have just described was used; I am quite sure it was.

Q. That is to say, the graph showing the details, etc. in 1251, the reserves were ascertained by use of a decline curve rather than rock pressures?

A. I would like to say, Judge Rummel, that at the time that was done, two and a half years ago, there had been very little success attendant upon the application of Boyle's Law to the study of gas reserves, the reason being that people generally took a field and studied it as a whole,—they met the difficulties I described a few minutes ago, but in failing to break the field up into units they got a rock [fol. 324] pressure decline graph which did not show a consistent relation between rock pressures and production.

Q. Well now, this Boyle's Law you talk about, that was enunciated many years ago?

A. I think in the neighborhood of two hundred years ago.

Q. And you mean to say only within the last two years has it become recognized in the natural gas industry as being a more dependable way of estimating the gas reserves,—a more dependable and stabilized way, I will say?

A. My experience might not have brought me in touch with work that may have been done more than two and

a half years ago in particular fields where the rock pressure method was applied, but I am rather confident of this statement—that the method has within the last two or three years had very much wider acceptance than it had prior to that time.

Q. What has been your experience, say during the past ten years, in the use of the Boyle's rule, as compared with the decline curve method in estimating gas reserves?

A. I find that, where I used Boyle's law, as it has been used here, the thing that we expect will happen does happen, [fol. 325] to a rather close degree,—a much closer degree than where reserves are estimated by the use of the decline curves.

Q. And over what period of time now do you make this observation as being your experience?

A. Suppose that I have found this particular method useful within the last two and a half years, but have applied it in eight or ten large companies, making use of their data over the past ten or twelve years. That is what I have actually done and what was done in this case,—I have presented to you a study, applying Boyle's Law to each of those areas from 1913 to 1923, and you can observe for yourself what we might have expected at the end of 1915 in any particular area and judge how that compares with the actual subsequent experience.

Q. From that experience you apply that to the future for approximately the next eighteen years?

A. Yes, sir. In the application of Boyle's Law, years are not a factor; it's the rate at which you take the gas out.

Q. Well, it's the result of the application of that law and the knowledge of the amount of gas being taken out by this company each year by which you arrive at the number of years it will take to exhaust this reserve of six hundred [fol. 326] and sixty-three billion cubic feet of gas?

A. I would arrive at eighteen years as being a fair and a practical estimate, but so far as Boyle's Law is concerned, the number of years might have been twelve, and it might have been thirty.

Q. Certainly, depending on the number of feet of gas taken out per year?

A. Yes, sir.

Q. What have you to say as to the method which you have adopted in arriving at the so-called probable productive periods in attempting to estimate a gas reserve for an area?

A. I have found what average production has been obtained in the past, and what reserve we can expect in the future for the nearest proven territory. For example, in estimating reserves for this probable territory, I find what the ultimate reserve—past production plus estimated future production—we can obtain from this proven territory; Boyle's Law has served me in studying the proven. Now, in attempting to estimate the gas reserve or nearby probable acreage, I find what the ultimate gas delivery for the proven acreage is, and apply that figure to my probable acreage, in each case taking into account any factors which, [fol. 327] in my judgment, should cause me to reduce the estimate, and in no cases increasing the estimate.

Q. Well now, as to the rock pressures of these probable areas, over what area do you estimate an average rock pressure that you apply to the proven area?

A. Well, if I am dealing with a particular probable area, such as the one here, I judge the rock pressure of that area by considering what the rock pressure actually is at the time of my investigation in any test wells which may have been drilled within that area. If no such wells have been drilled in that area, then the nearest wells within the proven area.

That there is undoubtedly a greater quantity of gas within each of the areas indicated by the lavender color than there would be at the present time had there been some wells drilled therein; that these lavender blotches indicate areas of higher rock pressure than the remaining part of the field outside of those areas, and that he has taken that into account in estimating the total or ultimate reserve of the proven area; that he has taken into account the actual rock pressure as revealed within the areas where any wells are, and has given the lavender blotch areas credit for a [fol. 328] somewhat higher rock pressure; that he knows this is the proper thing to do, because there are within some of these areas a few wells, and an examination of the rock pressure of those particular wells shows it to be higher than the average of the surrounding wells.

That referring to the blue area adjoining the area in question shown on sheet No. 2, there are three wells drilled just within the blue area, and close to the pink line, and two even beyond the blue area and just over the border in territory classed as unfavorable; that the reason he included the large area in blue which adjoins the proven area which is marked by the figures "213" is that there is a gas pool which has been proven in an easterly-westerly direction for 16 miles; the eastern edge of the pool has not been found, but out beyond it an average distance of about three miles a number of dry holes have been drilled, indicating that this pool does not extend eastward, or probably does not extend eastward, beyond that line; somewhere between the line of dry holes and the present edge of the development the pool will end, and it is a matter of judgment as to what part of that border territory should be classed as probable and what part as improbable; that the [fol. 329] reason he classes as probable territory the territory included in square 213 indicated on the map, notwithstanding the dry holes indicated thereon, is that there was a time when there was only one well in this territory, and if a man had at that time thought the only probable gas territory surrounding that well was the particular acre or two the well was on he would have been using very poor judgment; now that field has extended in all directions a good many miles from its center, and he considers it better judgment to consider that the field will probably extend a further distance when on the average it may measure say a mile or a mile and a half than to consider it to extend only a few hundred feet; that he has considered information available showing the rock pressure of all wells within the edge of the pink line on the map, and that the reason that he delimited the border territory as indicated on the map was not entirely because of the presence of dry holes, but that when he indicates a territory as probable he means that it is really probable, and that he would not want to go on indefinitely at the point indicated on the map to the east calling it probable, even if there were no dry holes; that the line drawn on the map indicated in the southeasterly direction by the letter E at each [fol. 330] end was one made by a vertical section plotted across the map; and his attention being called to four dry

holes in proximity thereto, the witness stated that in his judgment the probable producing territory extended beyond that cross-section; that while there are no wells beyond that, and the dry holes are there in the places indicated on the map, still if a well were drilled in the territory along the line indicated it would be 50 per cent closer to a producing well than to any dry hole on the map, and that in classifying a territory account must not only be taken of dry holes, but of producing wells also; that a well located midway between the two wells, No. 263, a company well, and No. 654, a foreign well, would be located at least a quarter of a mile closer to a company well, No. 1075, than to either of the dry holes mentioned; that this would not apply also to the territory to the north and east of the pink line and toward the dry hole F-4292; that since the map was made it appears that there has been drilled to the east of the proven territory six locations, three within the blue a short distance from the proven area, producing wells, two drilled beyond the area classed as probable and within territory that was classed as unfavorable are producing gas wells, and that one well [fol. 331] drilled about a mile over into the territory classed as unfavorable gave a show of gas but has been abandoned, so that the record of tests made since the maps were prepared is rather in favor of the mapping having been conservative; that the first three wells indicated by him are close to the border line between proven and probable, the same being about four miles from these three wells to the eastern line of the so-called probable acreage; that the witness knows of no wells between these three wells and the eastern border line; that there is about three square miles of territory within the probable territory and northeast of the pink line that intersects it at the point indicated on the map; that in the square marked 2200 the United Fuel Gas Company has 3.77 square miles, in the square south of it 3.30 square miles, and the square east of 213 has 2.52 square miles, in all about 9.1 2 square miles, or about 6000 acres; that there is shown on the map a square with the red letter J and a dry hole marked Foreign 2710, and that in a northeasterly line it more or less lines up with the dry hole just east of the so-called probable territory, F-654; that the reason he included this

territory as probable is that it is his best judgment; that a few months ago he came down and was talking about a big well that had just come in and he looked it up on [fol. 332] the map and found it slightly east of the line that would connect the two dry holes mentioned; that the reason he included the territory in the area enclosed in pink with the letter "T" as proven territory is that he thinks it highly probable that the amount of territory he enclosed as proven will be much exceeded at this point; that the gas reserves there were measured by Boyle's Law, and no addition made for any probable acreage around, so it does not matter whether there are ten acres or one thousand acres there, but he thinks it is a very conservative estimate of the extent of the territory in which it would be expected to get gas if additional wells were drilled, and that the estimate is based upon Boyle's rule regardless of the number of acres; that the territory included is about 500 acres; that in estimating the probable territory he figured on about 7 million cubic feet of gas per square mile per pound of rock pressure, and from that deducted 38 per cent on the average; that this factor was used in the blue area surrounding the Clendenin field; that in the Lincoln county field a considerably smaller factor was used; that in the area surrounding the Clendenin field he was dealing with the probability that the Injun sand would produce the gas, and so that sand was dealt with; [fol. 333] that in the case of the Kanawha field the factor was 19 million feet per pound of rock pressure to the square mile, and in the Lincoln field 3.9 million feet per pound of rock pressure per square mile; that in the Lincoln and Boone county field the factor used was 4 million feet, and that in the long probable area in Logan county 3 million feet.

His attention being directed to sheet No. 4 of the map and to the numerals 65, 66 and 67 thereon, he stated that it was evident that a large number of wells were drilled by someone within that area; that the width of the area was from two miles to about ten miles, and it extended east and west about 22 miles or more over onto the next sheet, that carries the numeral 67, a length of something like 25 miles all told; that he arrived at the rock pressure within this area by carefully checking the wells drilled by

the company therein; that the Columbia company owns a large number of wells in that area, which are marked with the letter C, and that he had access to all the information both of the United Fuel Gas Company and the Columbia Gas Company; that the Columbia wells are practically all on the western edge of the area; that on account of the dry holes indicated within the area and the probability that some of the acreage will be non-productive he discounted [fol. 334] the answer which otherwise would have been arrived at 25 per cent.; that this 25 per cent. was the same figure that he used to make up the 38 per cent. discount as to all the probable territory; in some cases the discount was 50 per cent., in some 35, and that in this case it was 25; that the average over all of the probable acreage was 38 per cent.; that he figured out for each field the estimate of the amount of gas reserve; that he estimated the amount of gas reserve for the areas marked with the numerals 65, 66 and 67 as calculated by him for that territory was 78.8 billion feet, which estimate includes the reserves of eight wells which have been drilled by the United Fuel Gas Company which are in reality proven but which are classed as probable because they form a rather small part of the total; that this covers quite a lot of acreage, something like 51.6 square miles; that over to the northwest edge of the territory the Berea sand is giving some gas, and throughout the remainder of the territory something like three out of four wells have produced gas in the Big Lime; that in a territory where gas is worth very little these Big Lime wells would be considered non-dependable, and a company would scarcely lay a line to gather such gas, but when gas becomes [fol. 335] valuable 3 million feet in a Big Lime well will be considered a fair well; that he does not think they are liable to turn to water at any time; that it is true that it is regarded as the poorest oil and gas sand in the section; that, however, it has one great advantage over most of the others, and that is that you are more sure you are going to get it; it is a very extensive formation, and continuous, and you would be surprised if you did not get gas in the Big Lime; that the average life of wells in the Big Lime would vary from possibly five years in some parts of the territory to more than fifteen years in the Triple-State field; that throughout three-fourths of the territory nearly all of the

wells are Berea wells; that the Big Lime is important only at the east end; that most of these wells are shut in, due to being too far from gathering lines; that since the witness made up the map a number of wells have been drilled in, mostly by the Columbia Company, and that from the number of wells that have been drilled in it looks like somebody thinks pretty well of the territory, referring more particularly to that in the circle, numeral "65"; that the greater bulk of the territory extends to the east; that the area shown on map sheet No. 3 in the area 65 and 66 is [fol. 336] given a different designation, but it is an extension of the same area about which the witness has been testifying; that in that territory there are about 9 dry holes and 25 producing wells over an area averaging about 4 miles wide and 8 miles long; that he does not consider that the area within the blue lines marked with numerals 65, 66 and 67 have a gas content equal in quantity or quality with that all over the Clendenin pool or the other proven areas, and that he has given effect to that judgment by only calculating 4 million feet per pound of rock pressure as against 7 million in the Clendenin area; that the reason he included the area within the circle numeral "38" on sheet 2 as probable territory is that it contained at the time he did the work quite a number of gas wells and also quite a number of dry holes; that he has included it within the gas reserves and has estimated it at 1.3 billion cubic feet; that he used a 75 per cent. discount in that case, which is a very large discount, and that this was because there were a large number of dry holes, and that it lies close to an oil field, and further that it lies on the west and north of an area that has been proven worthless; that the way he arrived at that is that he has mapped the territory which he considered proven for oil and gas and probable for oil and gas, [fol. 337] and then when an area is reached that has been mapped as probable for oil or gas, or possibly both, the figure is reduced to the extent to which he considers it probable for gas; that he has done the same thing with regard to the area in blue bearing the numeral "211," but that is a territory which, if it is probable for anything, is probable for gas; that there is no oil in its proximity; that while there are dry holes bordering to some extent the proven field the general trend here, not only of the structure but also of

the pool, the Spencer pool, he thinks justifies in this case that where there is a gas field that can be followed 15 miles, it is reasonable to believe it to extend another 2 miles, and that the dry holes indicated do not necessarily mean that all of the adjoining territory is dry; that he does not think that the same structure that exists there is the structure that exists in the so-called Branchland field; that it may not be an entirely different formation, and that when he ran into the dry holes to the east of the pool indicated he concluded that that was the end of the pool; that the pool indicated is skirted on the southwestern part with 3 dry holes, and extending northward with 3 dry holes, and then further west about two miles a vertical line of 5 dry holes, but that not-[fol. 338] withstanding these two sets of dry holes out beyond that field there is a probable or producing area; that as to some of the dry holes they are in all likelihood a local condition; that in making the statement in regard to the wells in the Branchland pool he was in error in stating that they were in the Bera sand largely; that he intended the Injun sand instead; that is, the pool lying to the northeast of the Branchland pool and having as its approximate center the number "55" within a circle; that there are only a few Berea wells in the eastern portion thereof; that the approximate area of the Branchland field is in the neighborhood of 50 square miles; that his reason for including as probable territory the section lying between the Branchland field and the field northeast which appears on sheet No. 4, and in the center of which appears the numeral "55" is that there were at the time the map was prepared two dry holes; that there were at that time a number of producing gas wells; he cannot distinguish between those that were there October 1st, 1922, and those that were there December 31, 1923, but that the territory would at the present time be considered as largely proven; that at the time the map was prepared there were not so many wells as at this time, and it was considered as probable; that from the fact that you [fol. 339] have the Big Injun production in the Branchland pool and along the eastern edge wells producing gas from both the Berea and Injun sands, you would judge it likely that production would be obtained in the area to the east from the Berea and possibly also from the Injun; that we know the Injun does not extend to the proven area previ-

ously referred to being in the east; it ends somewhere between the Branchland pool and the other pool; the Berea, however, apparently extends across that distance; that the reserve estimated by him for the so-called probable territory lying between the Branchland pool and the pool lying to the east was 1.1 square miles, or about 2½ billion feet.

That rock pressure is a term used to designate the pressure existing in a gas sand, and is measured in pounds above atmospheric pressure; it is the pressure of the gas; that there are fields in which the pressure of the water is a very notable factor; that the outstanding example of such a field is the Mexican oil fields; that there the pressure of the water against the oil body is the force that causes that oil to flow with the great volume that it does; that in the Appalachian gas fields and oil fields there is a very different condition; that the gas sands in this eastern [fol. 340] territory are to a large extent water-dry; that the way this is known is on account of the position of the oil pools; the oil lies down the structure, and in some cases actually at the bottom of the structure, what is called the syncline, and in other cases lying partway down the structure, and prevented from going further down on account of the water in the sand below that point; that the gas fields owned by the United Fuel Gas Company are to a very large extent water-dry; that this is true throughout the entire Appalachian field; that the deeper sands are generally water-dry; that in the sands near the surface they carry water; that when the gas is taken out of the pool the rock pressure goes down and gas expands, and as the place formerly occupied by a particular billion feet under a pressure of 500 pounds is withdrawn it is occupied by a billion feet under a pressure of say 200 pounds; that when the gas is finally all withdrawn the sand is not filled with water in this field; that he has studied the Branchland field, and that there is possibly more water in the Branchland field than in other fields; that the Triple-State field has considerable water but the Branchland field has more water than we find in the Clendenin or Kanawha fields; that within the area of the Clendenin field the water [fol. 341] is negligible.

That in addition to the methods indicated heretofore by the witness for determining the amount of gas, to wit, the

application of Boyle's law and the decline curve, there is another method commonly referred to as the porosity method, which is a convenient method in making a determination of the possible or probable reserves of a new field; that when a field is new and there is but little information available regarding the production of gas per pound of loss in pressure, and so forth, it is convenient to form some idea of the probabilities of the field by making use of this method, called the porosity method; that the method is merely this: the extent to which the territory is underlaid by the gas sand is estimated, either from the position of wells that have been drilled or from the structure of the territory, or from both; the thickness of the sand is estimated, either from thickness as determined from those holes which have been drilled or from outcrops, if any occur within a reasonable distance, and the porosity of the sand is estimated—that is, the porosity of the gas bearing sand; that that is taken usually by examination of bits of rock taken from the cuttings, if possible, but if that is not [fol. 342] feasible then either by referring to the porosity where the sandstone is known to outcrop, if that is within a reasonable distance; and if information regarding the porosity is not available from either of these two sources, then an engineer would have recourse to the average porosity of sandstones; that the porosity of various kinds of rock has been studied and tabulated, and one would not be going widely astray by assuming an average; that another factor necessary in applying this method is the rock pressure as determined in whatever holes have been drilled; that the quantity of gas in a given porous sand would of course vary with the pressure. Now, so far as the weakness of the theory is concerned, or its application, it is rather a difficult matter to estimate with any degree of accuracy the thickness of a pay sand from the meager information that would be obtained from a few wells in a new field. That is the principal weakness; that it is always more difficult to estimate the gas reserve of a field if it is a brand new one and the data meager, but if the witness went into a new field he would endeavor to apply one or the other of the methods used by him described above, rather than the porosity method, and would have recourse to the porosity method only as a last resort.

[fol. 343] In answer to a question as to the weakness in the application of Boyle's law used by the witness, he made the following answer.

The Boyle's Law method is properly applicable only in a field where the water encroachment is not a matter of serious importance. In the fields that we are considering here, water encroachment is not of any importance, as can be easily shown, and, therefore, the factor which sometimes makes the Boyle's Law method inapplicable does not have that effect here. Another point that is of consequence, more from a theoretical than from a practical standpoint, is the fact that natural gas is slightly more compressible at high pressures than at low pressures. In the application of Boyle's Law to the problems at hand we have ignored this matter. It would have but very slight effect on the answer were we to take it into account. A third factor that might be considered as of some importance is the fact rather generally recognized that there is a somewhat larger production of gas per pound loss in pressure after a field has been drawn upon for a considerable time than during the early period of production. The reason for that may be that gas will travel toward an area in which the pressure has been reduced, from a long distance, and if we were [fol. 344] to take this into account we would predict for the future of a gas field a somewhat greater gas production per pound loss in pressure than has been obtained in the past. We have ignored this factor in the present work. Another factor that must be taken into account and which requires at least some judgment is to determine at what final pressure the field will be abandoned; whether the final pressure will be atmospheric pressure or something above that or of course if vacuum pumps have been used for a long time in the final stages of extraction of gas or even below that. In handling the proposition before us, we have assumed that the gas would be extracted on an average to atmospheric pressure and have considered this a fair determination because we have not taken into account the rather well-known fact that we will get somewhat more gas per pound loss in pressure during the final stages of gas withdrawal. So far as I know, I have given you the difficulties that are met in the application of this method.

That he has made an estimate of 663 billion cubic feet as the reserve gas under the areas owned and controlled

by the United Fuel Gas Company; that in his judgment this is a fair estimate, rather conservative; that he thinks it will be found that there is gas in territory which he has [fol. 345] not included in the proven and probable territory upon which the above estimate is based; that this estimate of 663 billion cubic feet is the amount which he estimates as recoverable, and that will be recovered; that if he were attempting to estimate the total quantity of gas he would take into account what will undoubtedly remain in the sand after atmospheric pressure has been reached, and that would be a considerable quantity of gas, which the witness has ignored in his calculation, and in addition to this that he would also take into consideration the line loss; that what he means by the estimate given by him is the amount of gas that is actually recoverable; that assuming his estimate to be correct, you add to that the total past production of United Fuel Gas Company, which would indicate that the territory from the time it was first acquired down to the time the last gas was taken out would yield a total recoverable gas quantity somewhat in excess of a thousand billion cubic feet, and that approximately 40 per cent of that gas has already been recovered and found its market, and a comparison of the productive history of United Fuel Gas Company with the similar history of old gas companies will show that this company, which has only recently reached [fol. 346] approximately its maximum output of gas, may fairly be considered to have produced less than one half of its ultimate quantity.

That in order to determine where the water which is encountered comes from you would have to consider the particular field in which it occurred and might have to consider even the particular well; that generally most of the water trouble is from the water of the upper formations which finds its way down the drill hole, because either the casing may leak or the packer may not be tight, and the water gets into the well from that source rather than from the producing sands; that in his opinion there is really very little water accumulated at the bottom of a well if the bottom of that well be within the sand body that is producing gas; that there is very little accumulated from the pay sand; there might be a disagreement of two men as to the source of the water, but witness thinks that most of it

comes down the hole; that the old wells of the United Fuel Gas Company are pumped for water and that the water is found in the older wells rather than in the newer ones, and that he thinks this seeps in from above.

That the red circles upon the map which are given no particular designation indicate a gas well owned by some [fol. 347] operator other than the United Fuel, for which there is no designating number.

That he has not inquired in detail, but has in a general way, into the leases held by the United Fuel Company and the terms thereof; that the company has made a classification of drilled acreage, and this classification is in the witness's report; that in this report the number of acres that the company carries on its books as drilled acreage was 70,000 at the end of 1923; that the way they arrive at this drilled acreage is that they take the aggregate of the acres of the farms drilled, and this makes the total of drilled acreage, except that in cases of large farms, say 500 acres, upon which only one well is drilled, only 100 acres is considered as drilled territory, but if it was a small farm of say 20 acres the whole of it is considered as drilled territory; that he does not know how many farms are within the proven areas that are not drilled; that in his estimate of 663 billion cubic feet of gas recoverable from the territory he would expect, as time passes, the acreage would be tested or the results observed from tests made by others, and when acreage is found by testing to result unfavorably it would be abandoned; that he has already made an allowance of 38 [fol. 348] per cent to cover any such unfavorable results in the probable territory; that he has no idea of the number of farms included in the proven territory, either of the number drilled or not drilled; that he considers about 135,000 or 136,000 acres proven, of which 70,000 acres is classed as operated, from which it would appear that about one-half of the proven territory has been drilled; that if the United Fuel Gas Company should allow its leases to lapse by failure to drill or should surrender them or should be unable to renew them when they expire to the extent that they cover territory which he has classed as proven or probable, it would reduce the estimates, and that in his estimates he assumed that the company will keep alive, either by drilling a well or negotiating a renewal of the leases in-

cluded in the acreage embraced therein; that he mapped out a drilling program for the purpose of a valuation report heretofore made by him.

That since 1921 he has made a study of 215 wells that have been drilled by the United Fuel Company or by foreign companies in and around the territory that is owned by the United Fuel Gas Company; that so far as he is informed there has been no sale of leases by the United Fuel [fol. 349] Company to other companies except the sale of oil rights which have been made to a subsidiary or associate company; so far as the gas rights are concerned he is not informed of any sales that have been made; that in making an estimate previously he did not determine the number of acres of proven territory; that he was dealing simply at that time with proven territory, practically with the same acreage as a whole as he has classed in this report as proven territory; that the maps which he now has were not at that time prepared and he did not have any figures as to how many acres that represented; that he does not believe that the proven area has changed to any material extent since; that if he testified that there was 100,000 to 150,000 acres embraced in his estimates it reveals that he had in his mind the same extent of territory which he considered at that time proven and he considered proven when he completed the more detailed work; that he had not progressed sufficiently at that time to classify the remainder or to make an estimate as to the remainder of the territory; that he remembers that at the time he gave the information to the commission Mr. Wallace made the statement that in his judgment the company had twice as much gas as was revealed in his estimate, which statement was made to him, [fol. 350] and not to the commission; that since the last hearing in the last case before the commission he has made a study of the acreage called probable, and after making due allowance for contingencies in his judgment it contains 414 billion cubic feet.

That in addition to the elements taken into consideration mentioned by the witness heretofore in applying the porosity method, also in some fields where the temperature of the gas sands is very high that factor is taken into account; that it is also taken into account in the application of Boyle's law; that Boyle's law, accurately stated, would be that at the same

temperature a given quantity of gas will occupy a volume inversely proportional to the pressure; that is, from the correct scientific standpoint, but from the practical standpoint of applying Boyle's law to gas reserves it is not necessary to make any revision of the figures to take care of temperature. We are dealing with this question, How much gas has been produced and how much rock pressure has been lost in that production? We find the answer to that, and knowing the remaining rock pressure, we assume that in the future we will get about the same production per pound loss of pressure. That about two or three years ago the witness was sent into the Monroe gas field and asked to [fol. 351] estimate the probable reserves of that field; that he found a publication of the United States Government in which their engineers had made an estimate of the gas reserve, using the porosity method; that after going around the field, and while considering what would be the method most proper to use, he considered that were he to use the porosity method he would get a result that he couldn't depend upon, that were he to use the rock pressure method he would likewise be getting pretty far from a fair result, due largely to the salt water present in that field, and that as a result of these facts he used a method which he hadn't yet described, which gave a considerably lower result, and which method is that he took the gas that had been produced in northern Louisiana from some half dozen old gas fields, some of them producing gas from the same sand as the Monroe field; he found what the area of the production had been, the thickness of the producing sand, the initial rock pressure, the present rock pressure, and the total past production of each of the old wells and its probable future, which was more easily determined than this new field, and from that came to the conclusion that after taking into account the production and particular rock pressure of the [fol. 352] Monroe field and its area and its sand he could apply this information obtained from these neighboring fields, which would give a pretty fair line on what to expect from the Monroe field; in other words, he judged the particular gas body by its nearest neighbor; that he doesn't know whether this method was ever applied before; that he has applied no other methods of determining gas reserves of the United Fuel but the ones indicated by him above; that the United Fuel Gas Company keeps a record of all wells drilled

in its territory, whether foreign or its own wells, which record gives the location of the wells, the elevation of the top of the wells, the depth of the well, the depth of the producing sand, the name and the initial open flow, and that information has been the principal information used.

Redirect examination:

On redirect examination the witness stated that he has made inquiry and examination as to wells drilled in the pool included in the territory east of the Clendenin pool as probable territory, about which he was cross-examined, and that he finds that there have been ten wells drilled in the territory east of what he classed as proven territory since he made the classification, of which ten wells eight were drilled [fol. 353] in what he classified as probable and two beyond the probable in what he classified as unfavorable, in other words, in wild-cat territory; that of the ten wells three are oil wells and seven are gas wells; that of the two drilled in what he classed unfavorable territory each is a producing gas well.

Recross-examination:

That on a former hearing he testified that 215 wells had been drilled by the United Fuel Gas Company and by other operators in the field or territory which he considered as probable territory; that to make the record a little more complete concerning the wells which have been drilled since the map was drawn he has made a statement showing the total number of wells that have been drilled during 1922 and 1923 in this territory by the United Fuel Gas Company and other operators; that the maps as original prepared were dated October 1st, 1922; that those maps represented the territory as it existed December 31, 1921; that some time during the present year, 1924, he undertook to bring the maps down to the first day of January, 1924, by placing thereon all of the wells drilled during 1922 and 1923, but that he made no revision of the territory classed as proven, probable or wild-cat; that classification remained as origi- [fol. 354] nally shown; that the total number of wells drilled during the two years 1922 and 1923 is 423; that of these the United Fuel Gas Company drilled 97, other operators 326; that the United Fuel Gas Company obtained 84 gas wells, 9

oil wells and 4 dry holes, and other operators obtained 275 gas wells, 17 oil wells and 34 dry holes; that this is the information kept, so far as there is such a record, in the office of the United Fuel Gas Company; that of the 97 wells which the United Fuel Gas Company drilled 77 were drilled in territory mapped as proven, and all were producing wells; 18 were drilled in territory considered as probable, of which 16 were producing wells and 2 were dry holes; two were drilled in territory considered as wild-cat and both were dry holes; that the result of the drilling in 1922 and 1923 did not influence him to change the classification of the territory; that had he changed the classification it would have caused him to class as proven some portion of the territory previously classed as probable, and to class as probable some territory previously classed as wild-cat, and to a very minor extent class as wild-cat a small amount of territory which had been mapped as probable; that there was drilling done by other operators in what he classed wild-cat territory that would [fol. 355] place it in the class of proven territory, but none by the United Fuel Gas Company; that of the 326 wells drilled by other operators 78 were drilled in territory which he considered as proven. Of these 77 were producing wells and one was a dry hole. One hundred and ninety-seven were drilled in territory considered as probable, and of these 174 were producers and 23 were dry holes. That some of the wells drilled by foreign operators were in the Branchland field. That while the drilling in the Branchland field would not reflect the value of the United Fuel acreage, it does have a bearing upon the question of the classification of the territory; that it indicates to what extent that classification has, during two years, been justified or not. Other operators drilled 51 wells in territory which he classed as wild-cat territory; that of these wells 41 are producers, 10 are dry holes; that most of these wells are located in the areas classed as wild-cat, but very close to the border of areas which are mapped as proven or probable; that most of these 41 wells are reported as small wells; that this drilling has not changed his judgment as to the classification of the company's territory as of December 31, 1923; that he finds that there were drilled in area 213 shown on the map since De- [fol. 356] cember 31, 1921, 13 wells, which he has had indicated on the map, 4 of which were drilled in territory that

he classed as wild-cat and 9 in probable acreage, and some of which were drilled in 1924; so that they are not in any of the tables presented by the witness; that one of the wells is located about three-quarters of a mile to the north of the northern boundary of the ink line drawn across the map; that it is a gas well, completed in the last two or three weeks, and produces about 250,000 cubic feet of gas from the Injun sand; that whether it will be a profitable well depends upon what gas sells for; that while a well producing that amount of gas is considered a small well, yet the wells in the Injun sand have a very long life and should be producing gas for many years.

That in regard to area 211, just to the west of the Clendenin field, during 1922 and 1923 new wells were drilled in this area; during 1924 ten wells have been drilled in that area, and there are at present, as he is informed, several locations made for additional wells; that the gas here is obtained from the Injun sand; that the wells are large wells, averaging about one and a half million feet initial open flow; that these wells lie within an area that extends in a [fol. 357] southerly direction about two miles from foreign well 1504, and they extend over an area that would add to the proven portion of that pool not less than three square miles.

(The witness further testified, in open court, as follows:)

In explanation of Exhibit Z, heretofore filed with his testimony, the witness stated that in making the computation he took into consideration the fact that the gas could not all be marketed at once, but would have to be marketed over a series of years, and discounted the figures on that account, and that this discount was shown and applied in table No. 5; that the valuation shown by this report is based on the proposition that the United Fuel Gas Company will, for a number of years, be able to market gas both from its own property and from properties where it may purchase gas; that the total quantity of gas assumed as available from its own properties is well within the amount indicated in his study of its acreage, and the amount postulated as available through gas purchased is well within the bounds of a reasonable judgment based upon its past history in the matter of the purchase of gas; that the reason for including the gas

purchased is that he might bring together a cost figure [fol. 358] which takes into account two things, the cost that the company must meet in producing gas and the cost which it must meet in purchasing gas; that if it does not purchase it will have to produce, and the two figures will probably be about alike, but he brought them together to accord with the facts as near as he was able to judge, based upon past experience; that he assumed a market in Pittsburgh for industrial gas based upon the fact that gas is at the present time being sold at steel mills in and around Pittsburgh at various prices, 35 cents being about the average price; that the lowest price he has known during the past year was 32½ cents for gas available during the summer months only; that it is worth more if the company can deliver it the year round; that the Allegheny Steel Company is paying 35 cents for gas the year round at the present time, so that he assumed that the Pittsburgh market will absorb very large quantities of gas and all of the gas that this company might send there, if it could sell it for 35 cents; that he outlined the probable cost for the future based on past experience of drilling the undrilled acreage and the probable cost in the future of producing gas; that in this production cost he took into account the upward trend of costs, what is shown by past experience, and pro- [fol. 359] jected that into the future; that he assigned no increase in the value of gas at Pittsburgh above this 35 cent level, although he believes that it will advance above that, but that that is a matter that the future will determine; that after finding what the income should be from a proposition of this kind and what the expense should be, he found the expectant profits of each year and reduced that to present worth by applying a discount factor based upon an 8 per cent value of money.

Azel Meadows testified in substance and effect as follows:

That he lives at Huntington, West Virginia, and is a real estate operator and has been engaged in that business for something over ten years, and is acquainted with the value of real estate in the city of Huntington and has had such

acquaintance for fifteen years; that he is chairman of the appraisal committee of the Huntington Real Estate Board, the functions of which committee are to make appraisals of real estate for inheritance tax purposes and different tax purposes for insurance companies and for any other purpose desired; that he assisted in making an appraisal of certain real estate for the United Fuel Gas Company [fol. 360] in the city of Huntington; that the said appraisal was made about the 7th of March 1924; that he is familiar with the real estate appraised and with the value thereof, and that the values fixed for the said real estate as shown by said appraisal are in the opinion of the witness the fair value thereof at the time of the said appraisal and at the present time. The said appraisal in writing, signed by the witness and by Mr. Dunfee and Mr. Varnum, who assisted in the appraisal, is filed as part of his testimony marked Exhibit Meadows No. 1, and is attached hereto as part hereof.

Cross-examination:

That he made a personal examination of the real estate at the time the appraisal was made; that Mr. Dunfee and Mr. Varnum were with him; that the report was made to the Huntington Real Estate Board, and that he was acting for the Real Estate Board in making the appraisal.

H. O. Dunfee testified in substance and effect as follows:

That he lives in the city of Huntington and has lived there for twenty years; that he is a real estate operator and has been engaged in that business for about eight years and is fairly well acquainted with real estate values in the [fol. 361] city of Huntington and has been for the past eight years, during which time he has dealt daily in real estate; that he is a member of the Huntington Real Estate Board and of the appraisal committee thereof, whose function it is to appraise the value of real estate for inheritance and loan purposes and other purposes; that he assisted Mr. Meadows and Mr. Varnum in making an appraisal of some real estate for the United Fuel Gas Company; that the result of that appraisal was reduced to writing and signed

by himself and Mr. Meadows and Mr. Varnum, and is filed with the testimony of Mr. Meadows as Exhibit Meadows No. 1, and that the values shown by said report are in his opinion fair values for said real estate.

Cross-examination:

That the said report when made up by the appraisers was taken to the Real Estate Board and brought before the board at one of the weekly luncheons and was read and approved; that there was some discussion on this particular occasion; that he does not recall who was present, but he knows that he was there.

[fol. 362] C. R. Varnum testified in substance and effect as follows:

That he lives in the city of Huntington, West Virginia, and has lived there since 1902; that he is engaged in the real estate business and has been actively in it for the last eight years, during which time he has sold real estate to a considerable extent in the city of Huntington; that he is acquainted with real estate values in that city and has been since 1904 or 1906; that he is connected with the Huntington Real Estate Board, and assisted in making an appraisal of some property for the United Fuel Gas Company with Mr. Meadows and Mr. Dunfee, and that the appraisal signed by himself and Messrs. Dunfee and Meadows and filed as Exhibit Meadows No. 1 represents his judgment as to fair value of said real estate.

(No cross-examination.)

D. E. Goon testified in substance and effect as follows:

That he lives in the city of Charleston, West Virginia, and has lived there since 1907, and is engaged in the real estate business and has been in that business for approximately ten years; that his experience therein has been in [fol. 363] the city of Charleston, during which time he has been principally selling real estate for other people, but buying and selling some on his own account; that he

is acquainted with the values of real estate in said city; that he is a member of the Charleston Real Estate Board, and that one of the functions of this board is to appraise property for government reports, banks, insurance companies and any other purpose for which a value on property might be desired; that he knows the property owned by the United Fuel Gas Company at the corner of Quarrier and Dunbar streets in said city and is acquainted with the value of it; that he made an appraisal of said value together with Mr. Palmer and Mr. Henderson of the said real estate board, which was made about the middle of March 1924; that the result of said appraisal was incorporated by himself, Mr. Palmer and Mr. Henderson in a report, signed by Charleston Real Estate Board by E. Steen, vice-president, and Hugh W. May, secretary, and that the said report represents his judgment as to the value of said property.

(Said report is filed as a part of his testimony, marked Exhibit Good No. 1, and is attached hereto as part hereof.)

That he is acquainted with another piece of property owned by the United Fuel Gas Company situate on the [fol. 364] south side of Virginia Street, West, being a lot 40 by 150 feet, and being numbered 131; that at the same time he made an appraisal with the above named gentlemen of said property, and that the report of said appraisal, signed by E. Steen, vice-president, and Hugh W. May, secretary, contains his judgment as to the fair value of said property, which report is filed as part of his evidence marked Exhibit Good No. 2, and is attached hereto as part hereof.

(No cross examination.)

E. A. Palmer testified in substance and effect as follows:

That he is a resident of the city of Charleston, West Virginia, and is engaged in merchandising and buying and selling real estate, and has been engaged in the business of buying and selling real estate nearly thirty years, for himself exclusively; that he is acquainted with the values of real estate in the city of Charleston, and that he, to-

gether with Mr. Good and Mr. Henderson, made an appraisal of two certain pieces of real estate owned by the United Fuel Gas Company referred to in two reports of said appraisals filed with the testimony of Mr. Good taken [fol. 365] herein as D. E. Good No. 1 and D. E. Good No. 2, and that he believes that the values fixed for said real estate in said reports are the fair value thereof.

(No cross examination.)

N. R. Henderson testified in substance and effect as follows:

That he lives in Charleston, West Virginia, and has lived there for four years and is engaged in the real estate business and has been so engaged for about two years; that he is acquainted with the values of real estate in the city of Charleston, and assisted in making the appraisal of certain real estate owned by the United Fuel Gas Company, as shown by reports of said appraisals filed with the testimony of D. E. Good as D. E. Good Exhibit No. 1 and D. E. Good Exhibit No. 2, and that the values shown for said real estate by said reports are in his judgment the fair values thereof.

(No cross examination.)

[fol. 366] T. O. Sullivan testified in substance and effect as follows:

That he lives in the city of Pittsburgh, Pennsylvania, and has lived there continuously for about eighteen years; that he is engaged in the natural gas and oil business, and is connected with the Hope Natural Gas Company and the Hope Construction & Refining Company particularly; that he is the vice-president and general manager of the Hope Natural Gas Company and has had that connection with that company since 1918; that he has been engaged in the gas business since 1886 with a number of different companies; that just prior to his connection with the Hope Natural Gas Company he was general manager of the

Manufacturers Light & Heat Company, a company operating in the states of Ohio, Pennsylvania and West Virginia; that prior to that time he was general manager and superintendent of the Peoples Natural Gas Company, operating in the state of Pennsylvania, and for years during that time he was connected with different companies in the states of New York, Ohio, Kentucky, Pennsylvania and West Virginia; that the last five years he has been general mnaager of the Hope Natural Gas Company; that the Hope Natural Gas Company is engaged almost exclusively in [fol. 367] the natural gas business; it occasionally gets an oil well in its operations and of course operates it; that its operations are carried on in the northern part of West Virginia in the counties of Monongalia, Wetzel, Wood, Ritchie, Calhoun, Gilmer, Braxton and several other counties—practically all of the counties where there are natural gas operations north of Calhoun and Roane counties—and we also operate in Roane county, West Virginia; that the Manufacturers Light & Heat Company, with whom he was connected prior to his connection with the Hope Company, also operates in West Virginia and does still; that during the time he was connected with it its operations in West Virginia were considerable, having in the neighborhood of 200 or 300 wells in the state of West Virginia and owning three blocks of gas territory, something in the neighborhood of between 100,000 and 200,000 acres of such territory, in practically the same counties, or part of the counties, that the Hope Natural Gas Company is operating in; that his connection with the Peoples Natural Gas Company was for four or five years; that its operations, so far as the production of gas is concerned, were in the state of Pennsylvania, in that part thereof close to the West Virginia state line, in Greene county, Pennsylvania; that the [fol. 368] only connection of the Hope Natural Gas Company, of which he is now vice-president and general manager, with the United Fuel Gas Company is a contract for the purchase of gas; it has no interest in the property of the United Fuel Company; that he is acquainted in a general way with the gas fields in the state of West Virginia; that as vice-president and general manager of the Hope Natural Gas Company it is his business to keep informed as to general operations in gas territory not only in West

Virginia but in other states, and that he tries to get all that information he can, and believes that he is fairly well posted in regard to the territory in West Virginia, and that he is acquainted in a general way with the gas territory owned and controlled by the United Fuel Gas Company in West Virginia and Kentucky; that the said territory lies principally in Roane, Jackson and Kanawha counties, West Virginia, and counties south of those counties, and from all the geological data he has seen it is very well located; that it lies along the general trend of the gas development and along the anticline formations which have been determined to exist through that territory; that it has produced a large quantity of gas in the last ten years, as shown by the records of the company, its production in the last [fol. 369] year being approximately 37 billion cubic feet of gas; that from an operating standpoint the territory is very well located; that he has examined the record of the production of gas from said territory and the extent to which it has been drilled and tested; that he knows the extent of the acreage included in the territory of the United Fuel Gas Company; that from the examination he has made of the records of production, his information as to the number of wells drilled and the production of each well, his knowledge of the geological formation and all the other elements that go to make a valuable gas territory or otherwise he is able to give an opinion as to the value of the gas reserves of the gas territory owned and controlled by the United Fuel Gas Company for natural gas purposes alone, and that in his opinion the value of the gas reserves for natural gas purposes alone of United Fuel Gas Company is in round figures $34,000,000.00; that that is what he considers a prudent purchaser who desired to buy the property ought to be willing to pay to a willing seller therefor; that he is acquainted with the location on the property of the various wells that have been drilled, as shown on the maps of the company, and that from his experience as an operator of gas companies the operations carried on upon said [fol. 370] land have been very wisely conducted in order to develop the property to the greatest extent with the fewest number of wells; that he has operated gas properties under substantially the same conditions as exist in the case of the United Fuel Gas Company property and has

been conducting such operations for twenty years; that in his opinion very good judgment has been exercised in acquiring the tracts constituting the United Fuel Gas Company properties and in acquiring the very large acreage all joined up together; that this advantage comes from the fact that the wells drilled can be protected so that they will not be drained by other parties drilling on adjoining territory, and by having this large acreage all joined up the number of wells drilled would be less and it would be easier to conduct the operations on that account, rather than frequent moving and securing privileges over territory not leased or owned by the company; that in fixing the value given by him as aforesaid he did not give consideration to any part of the plant of the company other than the gas territory itself, and this valuation is his judgment as to the worth of said territory as it exists today, and that in fixing said value he has considered the amount of money [fol. 371] that has been spent for that territory and the amount thereof that has been exhausted; that he has been at a number of different times consulted and advised with by the other officers of the Hope Natural Gas Company as to the proper price to be paid for gas territory, and that in making such purchases or in selling gas territory people who advise with him rely upon such advice; that the Hope Natural Gas Company relies upon the advice given by him in this regard to some extent; that Mr. John B. Corrin, the vice-president of the company, who has had a very large experience in gas territory and has handled the land department of the Hope Natural Gas Company for a number of years, usually passes on the territory himself without consulting him, but at times they consult together about it if there is any question that Mr. Corrin is not entirely satisfied with.

That in fixing the value which he did on the gas reserves of the United Fuel Gas Company he has in view a free market in which the price received for the gas would not be affected by public service rates; that he had in mind such market in the states of Ohio and Pennsylvania through gas lines which are already installed and some of which are already connected; that he believes there is a sufficiently large market through pipe lines easily reached to market all [fol. 372] of the production of the United Fuel Gas Com-

pany if it could be secured for that market; that he did not consider in fixing said value any value that said gas might have on account of the gasoline that might be extracted therefrom; that if it should develop that it has any value for that purpose this would increase his estimate to that extent; that in fixing his value upon the gas reserves of United Fuel Gas Company he made quite an extensive and exhaustive study of the property of the company; that he took into consideration the number of wells that were producing gas from each of the different producing sands in the various fields; for instance, in what is known as the Clendenin field there were eleven wells producing gas from the Injun and Squaw sands, and in 1923 there were twenty wells; that he considered in the case of this sand the rock pressure in 1913 and the rock pressure in 1923, the decline between these two dates, the amount of gas produced from this sand over that period, and took each producing sand in the same way, for instance, the Weir sand, he had the same data on that, and the total amount of gas that property produced in the Spencer pool; he considered the same items from the producing sands; then he had information as to the acreage held under lease and the acreage held in [fol. 373] fee in the various different sections, the number of wells drilled on that acreage, the total amount of gas which the company has produced from the same territory and sold during the last ten years, the selection of the acreage with reference to the possibility of marketing the gas, the marketing the gas in Pennsylvania and Ohio, the general demand for gas in those states, and after considering all these varying different items he arrived at the value which he gave for the gas territory.

That he is acquainted with the producing and distribution plant of the United Fuel Gas Company in a general way; that assuming that plant to be worth $25,000,000.00 he would say that a company would not be justified in making the investment that has been made in that plant without a large reserve gas acreage, and that the reserve acreage that the company has is not any too much; it is not large enough if other desirable acreage could be secured; that the Hope Natural Gas Company purchases gas from other producers in the field at the well and pays therefor different prices, ranging from 10½ cents to possibly 14 or 16 cents, all in

West Virginia; that the difference in price is determined by whether the producer delivers the gas to the lines of [fol. 374] the Hope company or it lays a line to the point of production.

(No cross-examination.)

(The defendants object to the testimony of the foregoing witness as to the value of the plaintiff's gas rights upon the ground that he has not shown that he is competent to express an opinion thereon.)

JOHN B. COMBS testified in substance and effect as follows:

That he lives in Pittsburgh, Pennsylvania, and is engaged in the natural gas and oil business; that for the last twenty-two years he has been engaged in the natural gas business and for twelve years prior to that time in the oil business; that at this time he is actively engaged in the work of management of a number of gas companies, among which are the Hope Natural Gas Company, the Reserve Gas Company, the River Gas Company, the Connecting Gas Company, the Hope Construction & Refining Company, and the Marion Oil Company; that he is assistant manager and vice-president of the Hope Natural Gas Company and has been assistant manager for fifteen years and vice-president for probably twelve years; that as such assistant manager [fol. 375] and vice-president he has charge of the land department of the company, including the acquiring and surrendering of territory and the drilling of wells; that he passes on the questions involved in the purchase and acquiring of new territory, surrendering old territory and developing the territory owned by the company, and he has been doing that ever since he has been assistant manager and even before that time he was in charge of the land department of the company and did practically the same work; that this antedated his services as assistant manager some six or seven years.

That the Hope Natural Gas Company has approximately 900,000 acres of territory and approximately 3,100 live wells, and sells approximately 56 billion cubic feet of gas a

year; that during the last fifteen years the amount of acreage held has changed; that at times it has held up 1¼ million acres, but the amount of acreage held from time to time keeps changing, it being a question of elimination and acquiring more acreage all the time; that the number of wells in operation is not so large at the present time as it has been at times in the past; in other words, there have been more wells abandoned than have been drilled; that the [fol. 376] Hope Natural Gas Company operates entirely in West Virginia and north of the center of the state; it takes in all the gas producing counties from Brooke county south to Roane county, and includes every gas producing county north of Roane county and some that are not producing; that the operations are conducted in some twenty counties of the state; that since he has been with the company its development has been continuous and very active.

That he is also connected with the Reserve Gas Company and has been connected with that company as manager for probably five years, prior to which time he looked after its properties and operations in the land department; that his duties with the Reserve Gas Company are to a great extent the same as with the Hope Natural Gas Company, except that he is not so actively connected with it, for the reason that it has a certain number of acres and it remains substantially the same today as when it started; that in recent years he has had the active charge of its territory; that prior to five or six years ago Mr. John G. Pugh was manager of the Reserve company, and he consulted with the said Pugh, but that since that time he has had full charge of it himself; he has also had charge of the operations and production of the said company for the last five years; that [fol. 377] the said Reserve Gas Company operates in Harrison and Lewis counties, West Virginia; that he has been vice-president and general manager of the River Gas Company for five or six years, prior to which time he looked after their leases and operations in the land department; that it is an Ohio company and does not operate in West Virginia; that he performs the same duties for it that he does for the Hope Natural Gas Company; that he has practically the same connection with the Connecting Gas Company that he has with the Reserve Gas Company; that the Connecting Gas Company is a pipe line company and hasn't

anything to do with the production of gas; that he has been connected with the Marion Oil Company for five or six years; that it is not an active company and is practically entirely an oil company; that his connection with the Hope Natural Gas Company goes back twenty-two years, and that his connection with the other companies mentioned by him has been during that twenty-two years; that during that time he has been exclusively connected with the Hope Natural Gas Company and the other companies mentioned by him, and that prior to his connection with the Hope Natural Gas Company he was connected with the South Penn Oil Company and had general charge of the land department of its gas department for about five years prior [fol. 378] to his connection with the Hope Natural Gas Company; that he has been connected with the natural gas business, and particularly with the selection of the territory to be used, for the last twenty-seven years; that prior to that time he was engaged in the land department as clerk, roustabout, and so forth, but his active duties in connection with the selection of territory and the acquisition of the same commenced twenty-seven years ago and has been continuous ever since.

That he is acquainted to a great extent with the properties of the United Fuel Gas Company; that a great deal of the territory of the United Fuel Gas Company was formerly held by the Hope Natural Gas Company and was transferred to the United Fuel Gas Company, and from his knowledge of the territory acquired in handling the leases and operations and from the study he has made of it since that he is acquainted with that territory; that he has such information in regard thereto as would justify him in fixing the value on it for the purpose of purchasing it for his company if it desired to purchase it; that in acquiring territory his company acts upon his advice; that he knows from examination of the company's records and of the territory itself approximately the number of wells which the [fol. 379] United Fuel Gas Company has and to a great extent their relative locations; that to a limited extent he is acquainted with the sands in which the gas is produced, and in a general way is acquainted with the quantity of gas produced from each sand in the United Fuel Gas Company territory; that he knows the extent of United Fuel

Gas Company's acreage; that it is wonderfully joined up together, very, very well protected, which is a wonderful advantage, because it can be operated much more reasonably; there is not the competition by other people getting a number of leases alongside of you or adjacent to you and drilling wells and draining the territory; it saves the drilling of a great many offsetting wells, which deplete the territory very fast, and better spacing of the wells can be given by the United Fuel Gas Company than if the territory were broken up and owned by different individuals or companies; that if somebody has a farm under lease and you have a farm adjoining that you are required to offset the operations on the farm you do not have, and where one farm is surrounded by say four, that would require at least four wells on that farm to take care of the offsetting wells on the farms you do not have, whereas if you control the four farms surrounding you might develop all that gas with [fol. 380] one or two wells, or very often pay the land owner the price of a well a year instead of drilling, where, for instance, the lease on the territory is about to expire.

That to a limited extent he is acquainted with the geological formation in the territory owned by United Fuel Gas Company; that any valuation he would place thereon would be more from testing the territory than from any geological information—that is, from his actual experience;—that the territory of the United Fuel Gas Company has been sufficiently tested, in his opinion, to enable him to place a value on it; that the development already conducted upon said property has been done extremely wisely; that in his opinion the value of said gas properties of the United Fuel Gas Company simply for the purpose of natural gas, excluding any consideration of the plant which it has for production or distribution, is at least $35,000,000.00.

(The testimony of the witness as to the value of plaintiff's gas properties is objected to by the defendants on the ground that the witness has not shown himself competent to testify in regard thereto.)

That he is not so familiar with the company's Kentucky gas properties from actual experience, but he is familiar [fol. 381] with it in a small way from a study of the maps; that he would hate to put a value on the Kentucky prop-

erties because of this limited information, and that in the value of $35,000,000.00 given by him he does not include any value for the Kentucky properties, and that if they are of any value this value would be in addition to that given by him; that he is familiar with the uses to which natural gas is put by those who consume it; that it is used for domestic purposes, also for industrial purposes and commercial purposes; that in placing the valuation which he has upon the property of the United Fuel Gas Company he has considered it from the standpoint of all uses; that there would be a market for this gas aside from any domestic use thereof—that is, for industrial purposes and mills and factories in the states of Ohio and Pennsylvania, and also a certain amount for commercial purposes in New York State, and that he doesn't think there is any question but that the market in these states would absorb all of the output in addition to that already on that market, and that the gas produced by the United Fuel Gas Company could be entirely marketed, without relation to any state regulatory control or public utility commission control, and that looking at the [fol. 382] matter from that standpoint alone, and excluding the use of the gas by state regulated utilities, he still thinks the property is worth the amount given by him; that in fixing the value that he did he did not consider any value which the gas might have for the extraction of gasoline therefrom, and that if it has any value for such purposes that value should be added to the amount given by him, but that he has never given any consideration to what it might be; that by the fair value of the gas property he means that he thinks that the proven territory and the possible territory adjacent to the proven territory is worth that amount as a producing field for a gas company, considering what it could obtain for the gas, and the knowledge that he has of the operations and of the field enables him to put that value on it, excluding the wells themselves; that the gas could be sold, in his opinion, for such an amount as would give to those properties that value; that the cost of carrying the leases was not considered by him and is not an element in his estimate; that the price of gas considered by him in fixing his value upon said property was the price said gas is selling for in the market today; that the tendency in the price of natural gas in the past is that it is going up very, very much; that he knows one large company that gets 60

[fol. 383] cents a thousand for industrial gas and sells a great portion of its gas at this time for that purpose; that the gas referred to by him has been sold in Ohio, and the company is the Union Natural Gas Company; that the wells in Ohio and Pennsylvania are draining and depleting very fast, and the witness believes there is going to be a great scarcity of natural gas; that the price of 60 cents mentioned by him paid by manufacturers for gas is not lower than the domestic rate charged in that instance, but is higher, the average domestic rate charged by that company being about 51 cents and the industrial rate 60 cents; that he thinks the reason for this is that the company wants to sell most of its gas for domestic purposes and does not encourage the sale for industrial purposes, and the industrial consumer has been anxious to pay the 60 cents a thousand to get it; that in fixing the value of $35,000,000.00 on the property he considers that it is what it is worth today as a property; that of course the gas that would come out of the ground would enter into the value—it would have to—but the value today of the property is $35,000,000, and that if he bought it for $35,000,000 he would expect to get very much more than $35,000,000 worth of gas from it; that in arriving at the value of $35,000,000 he had in mind that the [fol. 384] Peoples Natural Gas Company, in the Pittsburgh district, charges 45 cents a thousand for industrial gas, and other companies about the same; that in arriving at his value he did not use any figure except his knowledge of the price of industrial gas, and he believes that the property would produce enough gas to net a buyer $35,000,000.00; that he believes the property is worth that much money and that enough gas will come out of it to net that amount; that he saw the engineers' figures as to the amount of gas which would likely come out of the property, 663 billion cubic feet, but that his valuation wasn't based entirely on that; that he is acquainted with the production and distribution plant of the United Fuel Gas Company in a general way and knows the territory it serves, and assuming that the plant cost approximately $25,000,000.00, in his judgment a company or individual would not be justified in constructing such a plant unless it had behind it at least as much reserve acreage as the United Fuel Gas Company has; that they should have this much reserve acreage or more.

(The defendants move to strike out all of the evidence of this witness on the ground that he has not shown himself competent to testify as to the value of the properties re-[fol. 385] ferred to by him or upon the questions about which he has testified.)

(In addition to the foregoing testimony of the witness John B. Corrin there was introduced upon the hearing of this case before the court of three judges the affidavit of the said John B. Corrin, which is in the words and figures following, to wit, and is inserted at this place in order that his evidence may appear consecutively.)

AFFIDAVIT OF JOHN B. CORRIN

I, John B. Corrin, being first duly sworn according to law, depose and say that I am the John B. Corrin who testified before The Public Service Commission of the State of West Virginia in Case No. 1516 in re The Investigation and Suspension of P. S. C. W. Va. No. 4 prescribing rates for natural gas to its consumers in the State of West Virginia at a hearing beginning June 30th, 1924, there testifying in part and in substance that, I was acquainted with the gas territory of the United Fuel Gas Company, that I knew from an examination of the company's records, approximately, the number of the gas wells of the United Fuel Gas Company, their location and the sands in which the gas is produced; that the gas territory of the United Fuel Gas Company had been sufficiently tested to enable me to form an opinion as to its value, and I testified to a mar-[fol. 386] ket value of at least $35,000,000.00, excluding any consideration of the plant; and that there would be a market for the gas produced in Ohio, Pennsylvania and New York.

Before testifying to such market value I, with T. O. Sullivan, another witness testifying at the same hearing also to the value of said gas territory, had examined the working maps of the United Fuel Gas Company which show its gas territory, wells, farm lines and other data usually carried on such maps, and we had been furnished with data as to the gas acreage of the United Fuel Gas Company;

besides, I had personal knowledge of the terms of the leases under which the United Fuel Gas Company had acquired much of its gas territory from the Hope Natural Gas Company, with which company I am now connected and was connected at the time of transfer of said leaseholds from the Hope Natural Gas Company to the United Fuel Gas Company, and at that time I had personal knowledge and records in my custody showing the terms of these leases such as date, name of farm, acreage, delay rental, gas well royalty, oil royalty, free gas right, surrender clause and other provisions; and when testifing at said hearing I understood that most of the natural gas territory of the United Fuel Gas Company was held under the usual form [fol 387] of oil and gas lease and the rest, in fee, and I had such information as to the form and terms of these leases such as amount of delay rental and gas well royalty, free gas right, duration and other provisions as was necessary, in determining the fair market value of said gas territory, and before valuing said leaseholds I made allowance on account of the annual payments required to be made by the terms of said leases as land, or delay rentals, and as gas well royalties. I understood the delay rental payments in the case of the majority of the leases to average $1.00 an acre per year and that most of the gas well royalties ranged between $200.00 per well per year and $300.00.

My judgment upon the information and data I had with regard to the gas leaseholds and gas territory of the United Fuel Gas Company was, so far as the same was indicative of the productivity of the territory, based upon my personal experience for many years with gas territory and especially with the gas holdings of the Reserve Gas Company, amounting to approximately 55,000 acres located in Harrison and Lewis Counties, West Virginia, which territory at the time I testified had produced some 315,000,000,000 cubic feet of [fol. 388] gas, meter measurement, and still is capable of producing 10,000,000,000 cubic feet of gas per year. This acreage is comparable with about 100,000 acres held by the United Fuel Gas Company in the Clendenin Pool and the said acreage of the United Fuel Gas Company in said pool is as "closely held" or in as solid a block as is said acreage of the Reserve Gas Company.

In addition, the Hope Natural Gas Company turned over some 37 wells to the United Fuel Gas Company about June

30, 1910, which wells are well distributed throughout the present territory of the United Fuel Gas Company and I compared the record of those wells shortly before the time of the hearing with their record in June, 1910, and this comparison was another basis for my conclusion as to the productivity of the gas holdings of the United Fuel Gas Company.

T. B. Gregory testified in substance and effect as follows:

That he is located at Pittsburgh, Pennsylvania, and is engaged in the oil and gas business, and has been so engaged for the last forty years, since 1884; that he is now connected with the following companies: he is president of the Union Heat & Light Company of Pennsylvania, serving various communities in northwest Pennsylvania; director [fol. 389] of the Pennsylvania Fuel Supply Company, probably the second oldest incorporated gas company in the state of Pennsylvania, with which company he has been connected in various capacities since 1884; president of the Manufacturers Light & Heat Company, director and vice-president of the Reno Oil Company, of Sistersville, West Virginia, producer of oil and gas operating in various counties in West Virginia; director and treasurer of the Tyler Oil Company, of Sistersville, West Virginia, oil and gas producers operating in a number of counties in West Virginia; one of the organizers and a director of the Ohio Fuel Refining Company, of St. Marys, Pleasants County, West Virginia; that the above are the principal companies with which he is connected, but there are others; that all of the above companies are producers of natural gas; that he has been connected with the Manufacturers Light & Heat Company as its president for about three years, and that as such officer he purchases all the gas and all questions of purchase of gas or gas territory are referred to him for decision, if he is present, or if not they are brought to his attention before anything is done; that no purchase of any kind is made to any extent without his approval, and that he has also general charge of the production of gas [fol. 390] for that company; that the Manufacturers Light & Heat Company purchases gas in West Virginia, Pennsyl-

vania and a very small quantity in Ohio; that it produces gas in West Virginia, Doddridge, Harrison, Hancock, Marion, Marshall, Monogalia, Tyler and Wetzel counties; that it has 775 producing gas wells in West Virginia, and that its production is substantial; that of the other companies mentioned by him the Reno Oil Company produces natural gas in West Virginia, but that he is not active in its affairs except as a director; that his principal work in the natural gas business is with the Manufacturers Light & Heat Company; that he has heretofore been connected as secretary and treasurer and an active director with the Union Investment Company, which piped gas to and supplied Morgantown, West Virginia, from Greene County, Pennsylvania, in the early part of 1888; that he assisted in the organization, was a director, manager and secretary-treasurer of the Fairmont & Grafton Gas Company, which was organized about 1891, and which piped gas to and supplied Fairmont, Belington and Grafton, West Virginia, and that it was later organized to pipe gas to Shinnston, West Virginia.

That during the war he was appointed assistant to the director of production and had charge of the Appalachian oil [fol. 391] and gas fields, and was asked to organize the bureau of natural gas in the Fuel Administration, and served in that capacity during the war; that he was at one time an active stockholder in the United States Natural Gas Company and the Triple State Gas Company, both of which operated in West Virginia in some of the territory now owned by the United Fuel Gas Company; that he was familiar with the territory owned by these companies in a general way; that he has been familiar with the production of natural gas in West Virginia ever since 1888, when a company with which he was connected piped gas and supplied Morgantown, West Virginia, which he thinks was one of the first companies organized in the state; that since that time the oil and gas business has been his principal business.

That he is acquainted in a general way with the properties of the United Fuel Gas Company; that the companies with which he is connected are considerably interested in knowing the extent of the dependable gas supply in West Virginia; that his company purchases gas from the Hope

Natural Gas Company, which in turn purchases gas from the United Fuel Gas Company at Cedarville; that he has examined the maps and data of United Fuel Gas Company [fol. 392] and familiarized himself with them for two or three years—in fact, for the last three years, ever since his connection with the Manufacturers Light & Heat Company; that the data examined by him included the history of gas production by the company, the decrease in rock pressure of the wells, the open flow of the wells, the sands from which the gas is produced, and all data indicating the life of the future supply of the business; that he is acquainted with the location of the leases and property controlled by the United Fuel Gas Company through an examination of the maps of that company, and is acquainted with the way in which said territory is put together, and with the manner in which it has been developed, and that in his judgment the development of the property of the United Fuel Gas Company has been done very judiciously, and that its properties are very advantageously located; that prior to his connection with the Manufacturers Light & Heat Company he had occasion to make some investigation of the United Fuel Gas Company; while he was director in charge of gas for the United States Government the question of the supply by the United Fuel and Gas Company for distribution at Louisville, Kentucky, came to his attention forcibly when the city of Louisville requested the Fuel Administrator to ration the supply of [fol. 393] the United Fuel Company to the various States of Kentucky, Indiana, Ohio and Pennsylvania; that the matter was gone into very extensively at that time, and the investigation caused an order to be issued to ration the gas in the city of Louisville refusing the request to ration it to other communities; that he is fairly well acquainted with the market for natural gas for industrial purposes uncontrolled by state regulation, and that he has considered the United Fuel Gas Company's properties in relation to that market; that from the investigation he has made of the United Fuel Gas Company's property and the information he has obtained in regard thereto he is able to form an estimate of the value of that property such as he would advise a company with which he was connected to act upon in case they desired to purchase the property,

and that in his judgment the fair value of the property, assuming that the United Fuel Gas Company wanted to sell it and some other company wanted to buy it, and excluding from consideration the producing plant and the transmission plant, would be in excess of $30,000,000.00; that in fact he would be willing to give $5,000.00 for a sixty-day option to buy the West Virginia property, the gas property alone, at $30,000,000.00, and agree to forfeit [fol. 394] the $5,000.00 if he did not meet the option; that in this estimate he does not include the producing plant or the producing wells, but just the reserve gas property, nor did he take into consideration any value which it might have for the extraction of gasoline, and that if there is any such value that this would be in addition to the estimate made by him; that he feels sure that if he could get an option such as mentioned above he would be able to handle the property at $30,000,000.00; that he has some friends who would like to join him in the purchase of it at that price; that he is not speaking of the Manufacturers Light & Heat Company, although it would be interested in a considerable portion of it; that the Manufacturers Light & Heat Company is in no way connected, by stock ownership or otherwise, with the United Fuel Gas Company; that he recommended to his board of directors the laying of a seventy-mile 12-inch line to connect with the United Fuel Company for the purpose of purchasing gas from it; that he observed the geographical location of the United Fuel Gas Company's property and the location of its wells as indicated on the gas map, which he saw in Pittsburgh in the office of the Ohio Fuel Supply Company, which maps have been available to him for a number of [fol. 395] years and purported to be maps of the property of the United Fuel Gas Company; that the maps referred to by him were in the office of the Ohio Fuel Supply Company, at Pittsburgh, and they purport to be the property of the United Fuel Gas Company in West Virginia, and are kept up to date, and these were the maps that he examined in order to get the data referred to by him; that the territory served by the Manufacturers Light & Heat Company in the distribution and sale of natural gas is principally in Ohio and Pennsylvania, all of the Ohio River towns from Pennsylvania south to New Martinsville,

West Virginia, on both sides of the river, New Castle, Pennsylvania, and the Pittsburgh district; that connections could be gotten to reach through to Indiana without building any other lines; that all this gas could be diverted from Buffalo, New York, to Erie, Pennsylvania, through existing lines; that the Manufacturers Light & Heat Company has large industrial markets; that there are probably more such markets available to the Manufacturers Light & Heat Company than to any other company—potteries, steel works and other factories—and that this market is substantially in excess of the supply now available to his company; that it could be tripled if an adequate supply could be guaranteed; that the Manufacturers Light & Heat [fol. 396] Company sells about 25 billion cubic feet of gas per year, and could sell, under the same conditions, three times that amount if the supply could be guaranteed; that the sale to the industrial consumers is made direct; that the witness's company is a public service corporation; that with the consumers that his company has at present it is necessary to deliver the supply of gas through public service corporations; that he is acquainted with the production and distribution plant of the United Fuel Gas Company, and assuming that that plant would cost approximately $25,000,000.00 to reproduce it, a company or individual would not be justified in erecting such a plant unless it had behind it as much or more acreage than the United Fuel Gas Company has; that they would be justified in having as much as they have, and are warranted in buying additional acreage as it is presented; that he thinks they would be very lax if they did not acquire such additional acreage if they could get it.

(In addition to the foregoing testimony of the witness given before the Public Service Commission and introduced in this case, the witness testified orally before the court in substance and effect as follows:)

[fol. 397] That in fixing the valuation that he gave for the value of the property of the United Fuel Gas Company he was acquainted with the character of title and the character of right which the United Fuel Gas Company had in the acreage that he was valuing, in a general way; that he has seen the statement introduced in evidence by Mr. Jay; that

he had examined all the records of the company as to pressures, maps and locations of the wells, and that in placing the value that he did upon the gas acreage he had in mind that the company did not own the gas but only held it under leases, such as are indicated in the statement introduced by Mr. Jay; that he has no reason to change the valuation that he put upon the company's property; that he has noted that the company owns in fee some 41,500 acres, that it has leases on some eighty odd thousand acres which has been developed by producing wells, and has in West Virginia some five hundred and odd thousand acres more upon which no wells have been drilled, and that knowing these facts and having examined the character of title in a general way that the company has to those various things, he has no reason to change the valuation he placed upon the property; that he made the valuation which he did from his general knowledge of the gas business, taking the pressures and an in- [fol. 398] spection of the working maps showing the gas developments, the general trend of the gas field, and the geological conditions showing anticlinals and synclinals; that in arriving at the value of the gas he considered the markets that are available for that gas; that in considering that all of the gas could not be marketed at once, but must be done over a period of years, he considered the interest on the investment during that time; all of these things were considered in arriving at his valuation.

The following further testimony of the witness is inserted verbatim at the request of counsel for the intervenors:

"Judge Rose:

Q. How did you make that valuation? Just make a short explanation.

A. Just from my general knowledge of the gas business, taking the pressure and an inspection of the working maps showing the gas developments, the general trend of the gas field and the geological conditions showing anticlinals and synclinals.

Q. What I want to get at is, assuming that you know that there is a million feet of gas or a billion under a particular piece of property, how do you value that million or whatever it is? Leaving out the other doubtful questions

you have been talking about, and coming down to some [fol. 399] particular thing that you know which nobody else knows—assuming that you do know that there is a definite quantity of gas under a piece of land covered by a lease of some other way, and you want to determine what the value of the amount of gas is, how do you figure that?

A. The markets that are available for that gas.

Q. You treat that gas—in other words, we will say there is ten million feet there, and you can get twenty cents for it at a particular market and it will take 15 cents to get it there, you say it is worth five cents a foot—am I right?—about fifty thousand dollars for that lease?

A. Yes, sir.

Q. That would be your way?

A. Yes, sir.

Q. Supposing you owned six hundred billions, or something of that kind, which you could by no possibility get there today or tomorrow, and you would break your market hopelessly if you did succeed in getting it all there at once—you have got to market it over a period of years. What deduction do you make for that?

A. The interest on your investment.

Q. You have made that?

[fol. 400] A. The costs—Well, I wouldn't know what else to ——

Q. Well, I say have you done it in your valuation?

A. Oh, yes. Over a period of years.

Q. How is that?

A. Over a period of a certain number of years.

Q. Well, I didn't follow your testimony; I didn't read a great deal of it. I didn't see that those calculations were made in most of the tables that I saw. They were made in the simple way that you got twenty cents for it, and the cost of constructing the line and sinking the well would be fifteen cents, and the difference was supposed to be the profit or value of the property, and I didn't see that there was any calculation made that some of it couldn't be delivered for ten years.

A. Oh, yes, that is all taken into consideration in the value.

[fol. 401] Cross-examination:

That he is president of the Manufacturers Light & Heat Company; that he has no position with the Ohio Fuel Supply Company; that he purchases some gas from the Ohio Fuel Supply Company; that there is a holding company called the Ohio Fuel Corporation that takes in the Manufacturers Light & Heat Company and the Ohio Fuel Supply Company; that Mr. George W. Crawford is president of the holding company and is also president of the Ohio Fuel Supply Company, but that he is not an employee of the Ohio Fuel Supply Company but is president of the Manufacturers Light & Heat Company, of which company the Ohio Fuel Company holds a large proportion of the [fol. 402] stock; that the Manufacturers Light & Heat Company does business in Pittsburgh; that the estimates of value which he has put upon the leaseholds of the gas reserves of United Fuel Gas Company are based largely upon the market for natural gas in Pittsburgh and in other territory adjacent thereto; that the Manufacturers Light & Heat Company increased its rates in Pittsburgh more than a year ago; that there was a protest against such increase; that there is no application pending by said company in West Virginia for an increase in rates; that in valuing the property of his own company he arrived at it by the same processes or estimates that he used in making the valuation of the United Fuel Gas Company property, and that he thinks that it is the attitude and reasoning adopted by the officials of all public utilities furnishing gas in West Virginia; that the rate of his company for natural gas in Pittsburgh is 63 cents, less 3 cents, or 60 cents net; that his company is taking from the United Fuel Gas Company approximately 4 million feet a day directly, and that it purchases considerable gas from the Hope Natural Gas Company, which, in turn, gets some of its supply from the United Fuel; that since he testified before, his company has built a line connecting its lines with the territory of the [fol. 403] United Fuel Gas Company; that the Hope Natural Gas Company is also building a line into what is known as the United Fuel Gas Company territory, and that with these lines built into the territory he still thinks the gas reserves are worth the amount stated by him; that the fact that the Hope Natural Gas Company line has been

built into the field and will remove large quantities of gas would have some effect upon the supply of gas in the field; it would make it somewhat more competitive, but that the fact that United Fuel Gas Company holds certain leases that were taken a good many years ago that could not be gotten at the present time on the same terms equalizes any difference that it would suffer in the competitive taking out of the gas by another company; that what he means by this is, the difference in rental of the leases taken years ago upon the basis of a certain amount for each well as compared to a rental of so much per thousand cubic feet today; that it is true that every time a million feet of gas is removed from the ground the rock pressure is decreased and more or less equalized throughout the field; that he does not think there is any material difference in the value of the United Fuel Company's property now as compared with when he last testified; that at the time he formerly testified there was no such thing as the Ohio Fuel Corpora-
[fol. 404]tion; that it was not thought of at that time, so that the valuation he gave was purely as a disinterested party; that it is true that he contends for the same formula in estimating the value of the reserves of his company; that gas in the ground is more or less fugitive, migratory and elusive, and will drift away along the lines of least resistance, and that the porosity of the sand has a great deal to do with this; that in fixing the values given by him he considered the problems involved in the construction of pipe lines to take the gas out and in a way that these lines would be impressed with a public service, but his valuation was put on the basis of a case of a willing buyer and a willing seller, and upon the theory that there was at a certain point and in a certain territory a demand for gas and that by reason of that demand or the necessities of the public utilities that desired the gas they would be willing to pay certain prices in order to get it, and the value of the property is determined largely by the rate at which you are able to sell the gas; that such rates are not altogether fixed by public service bodies; that in Pittsburgh the industrial rate is not so fixed; it is not regulated, and by that is meant the rate for gas sold for manufacturing purposes; that the
[fol. 405] Ohio Fuel Supply Company is selling gas in Columbus indirectly, and that the Federal court in Colum-

bus put a rate in effect within the last week of 55 cents for the first 10,000 cubic feet, 65 cents for each of the next 10,000 cubic feet, and 75 cents per thousand cubic feet for all over 20,000 cubic feet, with a 75 cent minimum charge; that this rate was for one of the subsidiaries of the Ohio Fuel Supply Company; that his company is at this time purchasing gas from the Hope Natural Gas Company; that it expects to take, within the near future, by reason of the pipe line which it has built into Roane County, about 2½ billion feet a year from the United Fuel Gas Company; that the delivery of this gas is now going on; that his company purchases this gas from the Ohio Fuel Supply Company at a price of 30 cents per thousand cubic feet delivered at Annamoriah, a point about 15 or 16 miles north of Spencer in Roane County; that there are no rebates on that price; that his company connects with a line that is called the West Virginia Fuel Supply Company; that it is about 15 miles from the United Fuel Company's lines to Annamoriah; that the 15 miles of pipe line connecting the two companies is owned by the West Virginia Fuel Supply Company or Fuel Gas Company, which is a subsidiary of the Ohio Fuel Com-[fol. 406] pany; that generally speaking he is acquainted with all of the public utilities selling natural gas in West Virginia; that he would not know whether or not there are any persons qualified to testify as to the value of natural gas reserves other than those engaged in the business in West Virginia; that those engaged in the business and identified with it would probably have a more general knowledge of the markets; that he thinks an engineer would be competent to make a study of the pressures and locations of the fields, and that the United States Government accepts such estimates as to gas reserves for depletion purposes in proven territory, but that he thinks those engaged in the business or identified with it would be the best qualified to answer the question as to value; that in buying properties he doesn't take the amount of gas actually in view into consideration, but relies on his experience as to the amount of gas that might be held in place in the ground; he takes the history of the wells and the field, the rock pressures, the initial rock pressures, and such thinks as that; that he did not make and never did make an estimate as to the billions of cubic feet that might be in place in the

ground; that he just takes the amount, takes the seven [fol. 407] hundred and odd wells of the company, looks at the rock pressures and their performances and the vast territory and arrives at a conclusion from his general knowledge of the historical facts developed by the territory of its value; that in the last two days he authorized the purchase of a fifty-acre lease right south of the Pennsylvania line in Marshall County for $2,000 on which a dry hole had been drilled; that regardless of the dry hole he authorized the purchase for $2,000 of that 52-acre lease, and it will remain for the future to determine whether he made a good or a bad purchase; that in his valuation of the reserve he made the statement that same would sell for the figure placed thereon by him, and that he meant by that that he would give that much for the property, and that since he testified before he has had a number of people come to him and say they would like to join him in the purchase at that price, and that this price is proper because the gas can be sold in Columbus and Pittsburgh for 55 cents or more per thousand cubic feet; that he has no doubt that he could not only find associates to buy the gas reserves but also the entire property of the company at a price greater than that fixed by the Public Service Commission or even at a price higher than that contended for by the [fol. 408] plaintiff as the fair value, and that this is because he thinks the gas can be sold at increased prices; the witness is asked the following question: "And I take it also that not only could you buy or be associated with buyers to buy the gas production, but in view of the vast earnings of this company you could no doubt form a syndicate to buy the entire property, couldn't you?" to which he replied "Likely"; that the price paid by the witness's company in the field for gas is 5 cents a thousand less than is paid by the Hope Company, which is a public utility, and which has a subsidiary doing business in Pittsburgh, but there is no possible connection between the Hope Company and the Manufacturers Light & Heat Company, and that the price which the witness's company is paying for gas in West Virginia to the Hope Company and to others is one of the elements of the rate charged in Pittsburgh.

A. G. Wamock testified in substance and effect as follows:

That he lives in Charleston, West Virginia, and moved there from Roane County twelve years ago; that he is engaged in the oil and gas business and has been so engaged for forty years; that he has had experience in that business all the way from digging of the ditch to the turning on of the gas in the house; that he has some interests in producing wells and has drilled wells; that he has bought and sold some acreage, but not a great deal; that he has leased gas territory on his own account and for companies in which he had an interest; that he came to this section in 1899 and [fol. 409] worked on the first well and has been here ever since; that he means the field now owned by the United Fuel Gas Company in Roane County; that he has not put in any wells or lines outside of the Roane County field, but has worked on laying the lines near Charleston in the early days; that he has been over most of the fields in Jackson, Roane, Clay and Kanawha Counties, in fact, has spent the last twenty years tramping over the hills in these four counties; that he is not familiar with Lincoln and Raleigh counties, but has some familiarity with Cabell and Putnam counties, but is not at all familiar with any of the acreage in Kentucky; that he is familiar with the location of the wells on the territory owned by the United Fuel Gas Company, with their respective ages, in a general way, and the production from the several pools; that he has seen a great many wells drilled in on all sides of the field and through the field in the four counties of Jackson, Roane, Kanawha and Clay particularly; that he does not know the number of acres which the United Fuel Gas Company owns or has under lease; that he knows the thickness of the sands from which gas is produced in the fields about which he is testifying; that in Jackson County gas is produced from the salt sand and the Berea, in Roane county the salt sand, the [fol. 410] Maxon, Keener, Big Injun and Berea, in Kanawha County from the salt sand, Keener, Big Injun, Weir, Squaw and Berea, and in Clay county from the Keener and Big Injun mostly; in Lincoln county it is mostly produced from the Berea, some from the Injun and some from the Big Lime; that he is actually engaged in drilling oil and gas wells and is acquainted with the cost of drilling gas wells in the Roane, Kanawha, Clendenin and Lincoln fields, and that the

average cost of such a well is $9,000,—that is, the complete well;—some cost more and some less, depending on the location, but that $9,000 is about the average; that he is acquainted with the production from the United Fuel Gas Company's wells to a sufficient extent to know that there is gas in the territory owned by that company; that taking his knowledge of the different fields and his experience in the different fields he has figured the amount of acreage that should produce gas at this time, and that in the four counties he has mentioned there are 300,000 acres controlled by the United Fuel Gas Company that should produce gas, including the acreage from which it has already produced considerable gas; that this is the acreage which he considers it has in the four counties mentioned by him that is pro- [fol. 411] ductive; that he has been over most of the territory controlled by the United Fuel Company and that it is judiciously joined up in most sections and that the drilling that has been done has been very well done, and that from the drilling that has been carried on he can get such information, as well as from his other knowledge, as convinces him that there is approximately 300,000 acres of producing territory in the four counties; that he could form an opinion of the value of this gas territory based on what is received for gas, which is one factor, and the demand for gas in the different fields; that in his judgment the gas territory owned by the United Fuel Gas Company, aside from the plant of the company—leaving that out of consideration—would be around $45,000,000.00.

(No cross-examination.)

S. W. Mears testified in substance and effect as follows:

That he lives in Pittsburgh, Pennsylvania, and has lived there for the last six years, and is engaged in the natural gas business and has been engaged in that business during all the time he has lived in Pittsburgh; that at the present time he is president of the Carnegie Natural Gas Company; [fol. 412] that his company sells gas in rather large quantities; that it sells gas under regulation of state authority and also sells large quantities of gas direct to consumers on private contract; that the gas sold to small consumers

is sold to those along its line; it does not supply any large towns, except that it has about 2,000 consumers in Munhall, Pennsylvania; that it sells gas to the Carnegie Steel Company, which is practically the only customer supplied by it; that in fact the Carnegie Natural Gas Company is a subsidiary of the United States Steel Corporation and supplies the steel company with natural gas; that it purchases gas along its lines from other producers; that he is acquainted with the price of gas at wholesale in the Pittsburgh district and has been acquainted with that price ever since he has been in Pittsburgh; that the tendency of the price of natural gas in recent years has been generally upward, and that he thinks the reason for this is that it costs considerably more to produce it; that the supply in the fields is harder to find, and naturally the price is upward; that the supply is decreasing and the cost is increasing; that he has made some study as to the price which could be paid for natural gas for heat producing purposes in competition with coal and other fuels—that is, the price [fol. 413] that could be paid for natural gas to take the place of coal; that in some manufacturing industries it depends largely on the location of the supply of coal, but he figures it out from his knowledge of the cost of coal at his plant in the Pittsburgh district; that he is fully advised as to the demand for natural gas as a fuel in manufacturing enterprises in the Pittsburgh district; that there is quite a large amount of gas sold for industrial purposes in that district, and if the gas could be furnished continuously a much larger amount than is now being sold there could be sold, in his opinion at least 100,000,000 cubic feet per day in addition to the present sales; that there are manufacturing industries paying at the present time 45 cents, but on the basis of dispensing with coal the actual cost to a plant such as an open hearth plant or pottery or something of that kind would be at least 35 cents per thousand for natural gas to compete with coal in that district, assuming that the coal would cost $2.75 per ton, a price that he received from a Pittsburgh coal company a few days ago, and the freight on that coal from the coal fields will run about $1.13 per ton, the cost of preparing the coal, taking care of the ash, shifting charges, hoisting charges, will run these figures to

[fol. 414] about $5.30 per ton of coal gassified through the producer; that it takes about one third of a ton of coal to produce a ton of steel, so that would be equal to about 5,000 feet of natural gas on the B. t. u. basis of West Virginia gas; that is, a third of a ton of coal was sufficient to melt a ton of steel; that would give you a figure of about 35 cents per thousand for natural gas; that this does not take into consideration economies that might exist in the use of natural gas, but just figures the coal gassified; based on the actual heating and lighting advantages of natural gas over producer gas in operating and overhead charges, let us take, for instance, in an open hearth furnace, the producer gas will only give from 200 to 300 heats before the furnace has to be replaced, and with natural gas you get from 400 to 500 heats, and it costs quite a little money to repair those furnaces.

L. B. Dennis testified in substance and effect as follows:

That he lives in Pittsburgh, Pennsylvania, and is vice-president of the Ohio Fuel Supply Company, and is a director of the United Fuel Gas Company; that so far as the Pittsburgh office of the Ohio Fuel Supply Company is con- [fol. 415] cerned he has general supervision of the maps therein, and that under his supervision the Ohio Fuel Supply Company keeps maps of the property of the United Fuel Gas Company, and that these maps are kept up to date from information furnished by mail from the office of the United Fuel Gas Company at Charleston, West Virginia; that he knows the witness T. R. Gregory, and that the said Gregory has had access to these maps and has made a close personal examination of them on several occasions to his knowledge.

(No cross-examination.)

John Davidson testified in substance and effect as follows:

That he lives in the city of Charleston, West Virginia, and has lived there for about thirty-one years; that he is engaged in the oil and gas business principally, and has

been so engaged for 17 or 18 years, and that he has leased land and operated it both for oil and gas during that time in the counties of Roane, Kanawha and Cabell, and some property in Ritchie county that he is interested in; that by operating for oil and gas he means leasing land and drilling wells, and that he has done some actual drilling and producing; that the oil which he produced was sold and [fol. 416] transported through Eureka Pipe Line Company's lines; that the gas which he produced was sold to United Fuel Gas Company, the Columbia Gas & Electric Company, and the Hope Natural Gas Company; that he has carried on a number of operations for oil and gas during the time he has been engaged in the business, some of which he has disposed of; that is, all companies in which he is largely interested have been sold; that he is now interested in two companies operating for oil and gas; that the companies of which he has spoken now have something over 4,000 acres, and that they had or were interested in about 16,000 or 17,000 acres in Kanawha county, which holdings were sold; that in addition to operating for oil and gas and selling its products he has also sold acreage itself; that he sold such property in Roane county in 1906; that he was interested in a block of acreage in that county and drilled a well upon it in the latter part of 1906 and sold the acreage after the well came in; that in 1920 one of the companies in which he was interested had leases in Geary district in Roane county, which were sold, and in 1923 it leased in Kanawha county a small acreage; that he is acquainted with the United Fuel Gas Company's gas properties in West Virginia, but is not very well acquainted with its properties in Kentucky; that he has known the [fol. 417] West Virginia property since 1906, when he began to make investments in oil and gas lands; that during all of the intervening years he has traveled over a great deal of the property looking for acreage that he might get for himself; that in fact he has been in every district in Roane, Kanawha and Clay counties that is producing any quantities of gas and oil, and that he has observed the actual development of the United Fuel Gas Company upon its properties in those counties; that he has had access to the records of the United Fuel Gas Company as to the development of its properties; that he has observed the loca-

tion of the wells in relation to each other and in relation to the company's property lines in a general way; that he has observed from the records the initial rock pressure of the wells in the different sands and the present rock pressure of the same wells; that in the beginning the Roane county sands—that is, the Big Injun—had an initial rock pressure of 470 pounds; today the rock pressure throughout the field, taking the Berea, both in Lincoln and Cabell and in Putnam and Jackson, and the Weir sand also, in his judgment the average rock pressure in these fields would be around 300 pounds, in some a little higher and in others a [fol. 418] little lower; that he has informed himself as to the quantities of gas produced from the properties of the United Fuel Gas Company; that the well which his company drilled in Roane county in 1906 came in with 4,000,000 cubic feet; that in the block of territory that company owned there, there were wells which came in with an initial flow of anywhere from four to eight million cubic feet; that he is acquainted with the cost of drilling wells in the Roane field, the Clendenin field and the other fields, and is also acquainted with the various sands in these fields; that he has drilled wells or had them drilled in all of these fields; that the average cost of drilling a well at this time would be around $8,500; that this differs in different sands, but that the above would be an average for all sands that are operated in these fields; that in the fields of Kanawha, Roane, Jackson, Clay, Putnam, Cabell and Lincoln gas and oil are found in the Big Injun, the Weir, the Salt sand, and some in the Lime; that he does not mean to say that gas is found in all of those sands in each of the counties named; that in Roane county, in fact, nearly all of the oil and gas produced is from the Big Injun; that in Kanawha there is what is known as the Weir sand, principally confined to Kanawha territory, and in Lincoln and Putnam, throughout those counties, is found [fol. 419] Berea grit, and in Jackson Berea grit, and also in Kanawha; that he is acquainted with the territory owned and controlled by the United Fuel Gas Company, and in his opinion it is the best selected acreage of any field in West Virginia for the economical production of natural gas, and that this is because of the compactness of the body of acreage gathered together; that in all the producing acreage that the United Fuel Gas Company has it is pretty hard

to get any leases on the inside of it, and for that reason it is better able to produce the gas at a less cost than producers not so situated, and the conservation of the field can be maintained longer by reason of this compactness; that the expense of production is less because the gathering lines cost less and it is able to so locate the wells that they do not have to drill quite so many in order to produce the amount of gas from the acreage; there will also be a saving in wells to protect the property line; the territory could be developed by drilling less wells than if it was contained in isolated tracts; that it is figured that one well to 75 or 100 acres is sufficient to produce gas in the ordinary sand; that in some sands it might require more, but in this sand that is sufficient in his opinion, and by having the acre-
[fol. 420] age compact and owning all of it you are not required to drill so many wells to get all of the gas; that he is sufficiently familiar with the properties of the United Fuel Gas Company and the operations of that company to give an opinion or place a value on its gas rights, exclusive of its producing plant, taking into consideration the property which has not been operated as a natural gas producing property, and that in his judgment the gas reserves or the gas rights of the company, exclusive of its plant and property already operated, which it owns in fee and under lease, is worth at least $39,000,000.00.

(The defendants objected to this answer of the witness.)

That in arriving at that valuation he treated the operated acreage and the acreage that he considered as tested acreage and reduced it to cubic feet of gas—that is, figured the quantity underlying these leases;—that on a part of the untested acreage he placed a value of $10 an acre, which part he considered would in time probably be gas territory, and a great part of it he discarded entirely as of no value; that these conclusions were reached by him from the devel-
[fol. 421] opment that he knows of in the field; that he is acquainted in a general way with the gas producing and distributing plant of the United Fuel Gas Company, and assuming that plant to be worth $25,000,000.00 or more, in his judgment United Fuel Gas Company would not be justified in expending the money that has been expended in its production and distribution system unless it

had a reserve of natural gas territory equal or greater than it actually has.

(The above answer was objected to by the defendants.)

That in arriving at the above value he did not take into consideration any value which the gas reserves might have for gasoline extracted from the gas; that if it has any such value that would have to be added to the figure given by him.

Cross-examination:

That through a stock company he was interested in the Cabin Creek Gas Company and the Central Gas Company and the Cabin Creek Oil and Development Company that controlled approximately 16,000 acres of gas territory in Kanawha County which was sold about a year ago; that at the time of the sale there were some ten or twelve wells on the property, having an open flow varying from two to [fol. 422] six or seven million, or an average open flow for all of them of about 27,000,000 cubic feet a day; that includes all of the properties held by the Cabin Creek Oil & Development Company, assignee of the Union Natural Gas Company; that the gas rights of one of the concerns were sold to the Libbey Owens Company, that is, the rights of the Union Natural Gas Company; that the open flow of the wells on this property was about 27,000,000; that the company got, as he recollects, $190,000.00 for the property; that this did not cover the entire 16,000 acres; that the rest of it was owned by the Cabin Creek Gas Company and the Central Gas Company, in which he was interested; that in the aggregate the open flow of the wells on this property was six or seven million cubic feet; that the stock of this company was sold to the United Fuel Gas Company; that he owned 22½ per cent. of the stock; that he can't state the amount he received therefor; that the United Fuel Gas Company operates, as appears from its records, something over 800 wells; that in his judgment it holds 210,000 acres that is proven gas territory, and in addition he thinks has 200,000 acres which he considers probable territory, and worth $10 an acre; that there probably will be 25 per cent. of that that will develop into [fol. 423] gas producing acreage; he thinks at least that

much of the 300,000 acres; that he arrives at this conclusion from a study of the maps and records of the company; that he did not place any value on the balance of the acreage held by the company; that he thinks some of it may develop into gas territory, but that he placed no value on it; that for what he considered the proven acreage he figured out the probable quantity of gas and considered it worth 4½ cents per thousand cubic feet, and figures out about $173 to $175 per acre; that he calculated the quantity of gas at the rate of 7,000,000 cubic feet per acre; that that is not an arbitrary figure, but is a pretty well established fact; that a great many of the acres in Roane county would, in his opinion, produce a whole lot more, and have produced more; that he has taken this 7,000,000 cubic feet per acre on the 210,000 acres and depleted it by 45 per cent. for the gas already taken out and placed a price of 4½ cents on the gas thus remaining, which figures about $175 per acre; that it is his opinion that the 210,000 acres would produce 7,000,000 feet of gas to the acre; that in 1906 he drilled a well on some of this acreage; that there is now drilled on that same acreage ten wells; that the total number of acres is about 970 for the ten wells; that the United [fol. 424] Fuel Gas Company's records show that those ten wells have produced since 1909 around 13,000,000 feet to the acre and are still producing, so on the average he considers in the Roane county field — some of it is above the average and some below the average; that the territory above referred to is in the Roane county field, which is one of the richest gas fields in the state; that there are wells in the Weir sand in Kanawha county that are producing an average of 7,000,000; that is a conservative average; that in reaching his average of 7,000,000 cubic feet per acre he took into consideration the fact that some of the sands produced more and some not quite that much; that he arrived at the figure of 4½ cents per thousand cubic feet because he figured that it could be sold upon the basis of the value of 4½ cents per thousand cubic feet free of cost — in other words, net cash; that he arrived at his figures by taking the amount of gas that underlay these leases, depleted that 45 per cent., and multiplied by 4½ cents; that he considers it worth the 4½ cents; that he considers an average price of $175 an acre; that he sold some acreage

in 1920 in Geary district for $166\frac{2}{3}$ an acre; that he sold acreage at practically that price; that he means by this [fol. 425] a company in which he was interested; he didn't figure on the basis of acreage; that $4\frac{1}{2}$ cents is what he considered the gas in the ground worth at the market price; that he never knew of any selling on that basis; that he considers it worth that; that he considers the territory worth $173 per acre—that is, the acreage upon which he figured the quantity of gas after depletion; that the Cabin Creek property referred to by him and sold to United Fuel Gas Company is considered in his estimate, and that he treated it on the same basis as the other acreage; that just about one-third of it was included in the acreage he considered as proven, and part of the acreage is oil; that he treated about one-third of it at $173 an acre, and some of it would average a greater value than others; that he used 7,000,000 feet of gas per acre throughout the entire field of this 210,000 acres and then depleted that 45 per cent. in arriving at his values, and that this figured about $173 per acre, and that is the average that he placed on the whole of it, but some of it he considers worth three or four times that; that whatever acreage is in the Cabin Creek property that is not proven he did not consider in the $173 an acre estimate; that he does not remember [fol. 426] the number of acres in the Cabin Creek property that he considered as probable at $10 an acre, but that quite a bit of it was discarded as no good; that probably 1500 to 1800 acres he considered as of no value; that he thinks about 2500 or 2600 acres of the Cabin Creek territory was proven acreage; that he has no connection with the United Fuel Gas Company as an officer, director or stockholder; that he has examined the records of that company within the last thirty days, and had examined them time and again theretofore, but has made a recent examination within the last thirty days, and that this examination was made for valuation purposes; that he testified on a former hearing as to the value of the property and at that time his recollection *is* that he fixed a value of $33,000,000 (?) on it, perhaps a little less; he does not recall what the total acreage was at that time; that in his examination made in the last thirty days he looked over the maps giving the acreage and all the records that he thought neces-

sary; that he worked two or three days on the figures; that he had the papers and records of United Fuel Gas Company in his office; that he did not have Mr. Davis's report; that he did see his report there, but did not examine it; that he does not know how many acres of proved territory [fol. 427] Mr. Davis reports; that he does not know how many acres of proved territory are in the Clendenin field; that he has not the figures with him; that he took it by districts—that is, magisterial districts;—that he has no report showing how he arrived at this valuation; that he knows the acreage generally that the United Fuel Gas Company owns in the Clendenin field; that in arriving at the value he took that district as a whole; that the list shown him was made from the records of United Fuel Gas Company from information furnished by it; that the list does not show the proved acreage of all these fields; that he arrives at it from his practical knowledge of the fields; that he has not at this time any data that he can put in to indicate the various kinds of acreage; that he did figure it up for the several fields, but that he bases his statement on his knowledge of the field, the development of the field, the maps and the figures for the quantity of gas in that field; that he did not reduce it to writing, but that he figured on it, but has not the memoranda with him but can produce the same; that he has a memorandum which covers only the results; that there is about 20,000 acres that he estimates of proven territory in the Cabin Creek field, that in the 210,000 acres treated by him as proven [fol. 428] territory he included such territory in Kentucky as is actually operated only, which was something over 4000 acres; the balance of 206,000 acres is in West Virginia; that he depleted the total quantity of gas on account of past production 45 per cent; that in doing this he figured that some of the wells were 60 per cent. exhausted, some less and some more, but on the average that the territory from which production was being actually had was 45 per cent. exhausted; that the company is drilling wells right along in all of the fields, and that he considers 45 per cent. is a fair depletion for the proven acreage on account of the gas already taken out; that this is not an arbitrary estimate, but it is his best judgment; that he does not know

about anyone else using the same system; that in his opinion the gas is worth 4½ cents in the ground, and that in arriving at that he took into consideration the general trend of the market, having in mind the outside market, and speaking particularly of the market for the United Fuel Gas Company; that he believes that the United Fuel Gas Company could get that price for it over and above the cost to them—in other words, the cash basis for it to the Hope, the Carnegie, or any of those companies; that he was just figuring what he thought the stuff was worth; [fol. 429] that he does not know how many acres the United Fuel Gas Company includes in the Kanawha pool; that he knows the number of acres it has in Kanawha county; that his information is that of the Kanawha pool there are parts in Kanawha county and it goes on through Kanawha and Boone counties; that he does not know what the United Fuel Gas Company designates as the Kanawha pool; that he has not made any reference in the world to Mr. Davis's report.

That he has classed 300,000 acres of the territory as prospective; that some of it in all probability will develop into producing acreage, and that he valued the whole at $10 an acre for the reason that it is a great protection to this acreage to hold it in reserve; that he sold his stock in the Cabin Creek Gas Company, and he thinks that the company had 8,000 acres in which it owned the gas rights and half the oil rights; that there were around 2,000 acres of this that were proven territory.

That on a former hearing he testified that the value of the company's gas rights was $32,000,000.00 to $33,000,000.00; that the increase to which he testifies today is brought about by the development of additional acreage since that time and the increase in the price of gas; that this additional development, some of it has been right up [fol. 430] here in Kanawha county, up in the eastern part of Roane, extending quite a distance; that there is new development in nearly all of the districts; that this additional development reflects five or six million additional value, together with the market conditions; in other words, the market price in Cincinnati is about 35 cents today; the Columbia is getting something over 50 cents for it, I believe, in Cincinnati; that according to his estimate the

proven territory figures about $173 an acre, and that is what he considers a fair value for the property; that he, in making his estimate, refers to the rate at which he thinks the property would sell; that he sold acreage up there in 1920 at $166 2/3 an acre, and that it was quite a distance from the undeveloped acreage; that the depletion of 45 per cent for the gas as taken out he applied to all of the proven acreage uniformly—that is, on the whole acreage;—that this was done in order to arrive at an average which would apply to the whole field; that perhaps some of it is only depleted to a very small extent while some to a larger extent; that at the time of the sale of the Cabin Creek property it was depleted perhaps hardly as much as 45 per cent [fol. 431] but more than that at this time; that the Cabin Creek Gas Company had an interest in the oil, but that he cannot tell what the production of oil was; that he sold 292 shares of the stock of the Cabin Creek Gas Company to the United Fuel Company; that there was a total of 1,300 shares and that he held between 22 and 22½ per cent; that Mr. C. A. Gates also sold his stock, and that he thinks Mr. Gates had 293 shares; that he sold his stock for $65,700—that is, $225 per share; that he does not consider the price at which he sold the stock the full value of the property; that there was between 32 and 33 barrels of oil production, which was pretty well settled; that the oil produced was a high grade oil; that it brings a premium, he thinks of 25 cents a barrel; that generally speaking a settled production ordinarily is worth $1,000 a barrel, but this depends on a great many conditions; this production was not worth that because it was pretty close, expensive to operate, and there was a one-fourth royalty; that he would not say that $1,000 a barrel was a fair estimate, it always depending on the way the farm is drilled, and other elements; that this oil was produced in the Weir sand; the Cabin Creek Gas Company owned one half of the oil production; that he could not give an estimate of the value of the oil [fol. 432] production at the time of the sale without knowing the market price; that if oil was worth say $4 a barrel at that time the value of this production would be from twenty to twenty five to three thousand dollars, or the whole interest of the Cabin Creek Company in the property something like $48,000; that he could not say whether

there was any undrilled oil acreage, but he thinks there was; that he would think it was worth $10,000; that the gas wells cost at the time anywhere around $12,000 to $14,000; that the reserve gas in the acreage drained by these wells would make the wells worth more than they cost, and that he could not tell what the value of the wells would be without knowing the production; some of them might be worth twice as much as they cost and some not so much, depending on their production; that the wells cost $50,000 to $55,000; they were expensive wells; that there was about 2,000 acres to 2,500 he considered proved, about 3,500 probable, and from 1,800 to 2,000 doubtful; that he considered the probable acreage worth $10 an acre; that he does not think the acreage which he would value at $10 an acre in the Cabin Creek property was as much as 3,500 acres; perhaps there was about 2,500 acres of this, which he thinks is worth $10 an acre; that he did not classify it separately, [fol. 433] but included it as a part of the 300,000 acres in the whole United Fuel Gas Company field, but that he thinks the 2,500 acres of Cabin Creek company acreage referred to by him was worth that amount and the proved acreage $173 an acre; that while it may be that the stock of himself and his associates in the Cabin Creek Gas Company was sold for a sum very much less than the values that he now fixes upon that property, he thinks that it may be worth three times what they sold it for to the United Fuel Gas Company; that that company has a market, pipe lines, and so forth, and that it can supply gas from its wells at a better prices than anybody else, so it makes quite a difference in value from its standpoint and at what he would sell it; there are many things that enter into the question; that he sold it for what he was willing to take for it, and they expected the United Fuel Gas Company to make some money on it at that price; that he and his associates had operated the property since 1916 and had realized from the operations about 150 per cent, and that if what they realized from operations be added to what they received for their stock it would indicate that they realized about $375 a share for the stock.

(In addition to the foregoing testimony of the witness [fol. 434] which was offered, he was also introduced in

open court upon the hearing and testified in substance and effect as follows:)

That in fixing the valuation which he did upon the gas properties of the United Fuel Gas Company he was acquainted with the fact that the larger part of it was held under leases, some of it, however, being in fee, and that he knew in a general way the character of title which the company had thereto; that since he testified before the Hope Natural Gas Company has laid a line into the field, which would indirectly affect his judgment of the value; that in his opinion it would increase the cost on the part of the United Fuel to some extent; that the Hope would be a competing producer; that because of this factor entering into the question since that time he thinks his valuation should be reduced 20 per cent.

Cross-examination:

That while it affects more or less the profits that the company would make, he arrives at the value largely from the profits to be derived from marketing the gas; that he thinks the marketing costs would be increased and the United Fuel would have to meet that increase; that if the Hope Natural Gas Company would take out of the fields 80 [fol. 435] to 90 million feet per day it would decrease the United Fuel's Supply, unless it took care of the situation, and this is done by protecting the territory adjoining that where the gas has been taken so as to get the gas before the competitor takes it; this necessarily costs a great deal of money; that the United Fuel Gas Company's acreage is very compact, and it would be very hard to deplete any of its present acreage; that should be taken into consideration; that if a large amount of money was required to protect the property from being depleted by others it would necessarily cut down the profits and mark the property worth less; that he thinks there is demand enough in time to take all the gas that will be produced; that he is a producer of gas and is selling gas to the Columbia Gas & Electric Company, but not to United Fuel; that he has sold gas to United Fuel; that there is a stipulation in his contract with the Columbia Gas & Electric Company that the price will be increased in the event of an increase allowed by the Public

Service Commission for gas in the territory from which it is taken; that the gas procured by the Hope Natural Gas Company in the United Fuel's field is purchased from independent producers; that he knows this only from what he has heard from other people; that in his judgment the [fol. 436] Hope coming into the field would decrease the value fixed by him heretofore upon the United Fuel property about 20 per cent., so that it would now be worth, according to his judgment, about $31,200,000.00.

W. C. Hanby testified in substance and effect as follows:

That he lives in Charleston, West Virginia, and has lived there about 20 years; he is now a member of the New York Stock Exchange and is in the brokerage business as a member of the firm of Hardy, Dana & Company; that prior to entering into that business he was vice-president of the Central Trust Company and had active management of that company for about five years, and that prior to that time he was engaged in financing various and sundry bond propositions; that he has financed more than one such proposition; that if he were requested to loan or supply the funds for a construction project similar to the United Fuel Gas Company with the understanding that the total amount of money to be invested would be for an average of one or two years and were to be used for that purpose prior to any return from any operations, the charge for supplying the money would depend largely on the ultimate [fol. 437] period of time for which the money was to be tied up; that if based on a long-term bond issue—that is, permanent—it would be one thing; financiers usually figure the cost of a bond issue for construction propositions at a somewhat higher rate than for a going concern, and if the money were involved for any material length of time for the ultimate repayment of it we would figure a 6 per cent. bond issue at about 90, which would figure about 10 per cent. for the cost of money; assuming that it were to be financed on the ordinary twenty or twenty-five year bonds, if these were six per cent. bonds we would figure a discount of ten per cent. on it, which would make the cost for the first year 16 per cent.—that is, the bonds would

bear 6 per cent. interest and the charge for financing would be 10 per cent. on an average; some propositions might be a little less and some a little more; there would be a premium of 10 per cent. on the loan to be deducted from the amount of the principal only, and which would have the effect of running your cost for the first year to 16 per cent., and this 10 per cent. so deducted would be the cost of doing the financing, and in addition to that the interest, of course, would be paid for the first year.

That the charge for a loan made to a going concern is [fol. 438] not the same; the least charge he ever made was 5 per cent., and that was to a going concern, where the security was at least seven times the amount of the loan, and it was at a time when money was very cheap and it wasn't difficult to finance a bond proposition or a bond issue; that under the most favorable circumstances the minimum charge for financing is 5 per cent. and in addition to that the interest on the money during the time it was in use.

Cross-examination:

That 10 per cent. was charged on short-time money, and that while the payment would be spread over the life of the issue of bonds the initial investment would be made the first year; that he is not familiar with the financing of the United Fuel Gas Company at this time; that they did have a first-mortgage bond issue several years ago; that it did not do its financing in Charleston that he knows of; that his company bought some of the bonds at 95 some years ago; that if a sufficient amount of depreciation is set up he considers United Fuel Gas Company bonds good securities, but that he has made no investigation of the affairs of the company and does not know about this; that his activities [fol. 439] in floating bond issues have been almost entirely local.

James J. Cabot testified in substance and effect as follows:

That he lives in Charleston, West Virginia, and has lived there for about 4½ years and is engaged in the natural gas and oil business, and carbon black business; that he is

vice president of his father's company, Godfrey L. Cabot Incorporated, and assistant manager of the Kanawha Valley Products Company; that the Kanawha Valley Products Company is engaged in the production of natural gas and has leases on approximately 2017 acres in Cabin Creek district in Kanawha county in what he should say was the Kanawha gas pool, and that it has been operating these leases since 1911; that since that time it has produced from this 2017 acres approximately 20 billion cubic feet of gas, or approximately 10 million feet per acre, and the wells are still producing; that in the month of May 1924 they produced 147,388 thousand cubic feet, or 3,684 thousand cubic feet per well per month; that this territory is surrounded by producing wells, which were being operated during the time that the Kanawha Valley Products Com- [fol. 440] pany was operating; that his company purchased 125 acres south of the Kanawha river and paid therefor $25,000, or about $200 an acre, and that there were no wells on it at that time; that it was acquired for the oil and gas rights; that there was no indication of oil, and he does not believe there ever will be any oil produced on it; that the $200 an acre was paid as a gas proposition, that he has had an offer from the Libbey-Owens Bottle Company to purchase the gas of his company at 14 cents a thousand cubic feet, that company to lay the lines to the line of his company's leases and the gas to be furnished at the line of the leases, stripped of gasoline—that is, after the gasoline is taken out—and that he declined to accept the proposition because he thought the price was too low.

Cross-examination:

There are a large number of concerns doing business strong enough to build a line to his field to buy his gas, but there are only a few that are near enough to make the laying of such a line financially profitable; that the location of his particular field and the necessities of the Owens Bottle Company made it a possible customer; that not in every case where gas is produced in a field remote from [fol. 441] Charleston could a customer be found at the price that he named; that he feels certain that if there were no lines into the Clendenin field right now and a big field was opend up there would be plenty of companies that would

go in there and pay 14 cents for the gas; that there is no large market now except for the big companies that are engaged there; that he believes that a line could be built to Pittsburgh from the gas fields and the gas sold at 14 cents in the field and make a profit on the pipe line between the leases and Pittsburgh; that there is not now any large market except with the large companies; of course, there is a small local market; and that if there were no lines into the field in order to market the gas he would have to organize transportation lines to transport it away from the field; that the market would depend largely on the amount of proven territory, but considering the amount of proven territory the United Fuel Gas Company has he considers that the market price would be at least 14 cents; that if the United Fuel Gas Company has the amount of proven acreage which it claims he considers that it would be worth $200 per acre, some of it worth more than $200 an acre, but he considers $200 an acre a fair average; that he knows something of the location of the acreage; that [fol. 442] the acreage which is unfavorable is of doubtful value and no one could tell anything as to its fair value.

Ira G. Sayre testified in substance and effect as follows:

That he lives in Charleston, West Virginia, and has been engaged in the oil and gas business for about 14 years, and that he has been a producer of natural gas during that time; that he produces principally in the Kanawha field in what is known as the Kanawha gas pool on Cabin Creek, and that his property is contiguous to some of the property of United Fuel Gas Company; that he has gas leaseholds covering nearly 12,000 acres; that he sells his gas at the well; that he is selling it now to the Marmet Gas Company, the Montgomery Gas Company and the Owens Bottle Company; that he has been selling to the Owens Bottle Company for about five years, and that that company takes most of his gas; that they take it at the property line and that he has the right, under his contract, to extract the gasoline; that they are paying him 10 cents per thousand cubic feet; that he has made other sales for from 12 to 15 cents per thou-

sand cubic feet at the pipe line; that the contract was made [fol. 443] with the Owens Bottle Company three years ago, two years ago last March (March 1924); that since that time the price of gas has not decreased any; that he does not expect to renew the contract with the Owens Bottle Company when it expires, at the same price; that he expects to get more for it at that time; that he is acquainted with the cost of drilling wells and knows what his own wells cost; that on the average the cost of drilling a well in that particular section is around $8,000; that he has reference to a completed well and has no reference to any proportionate cost of any part of a dry hole.

Cross-examination:

That he sold gas to the Marmet Gas Company; that it is a local company selling gas to domestic consumers at Marmet; and that he receives from that company 15 cents per thousand cubic feet; that he also sells gas to the Montgomery Gas Company; that it is a public service corporation and has lines to his leaseholds, and that he gets 12 cents per thousand cubic feet from this company; that he has no other industrial consumer than the Owens Bottle Company; that there are other consumers close enough to him, but that he has had no applications recently from anyone else for gas; that he has had no surplus to offer; [fol. 444] that he did have at one time application from a local concern on the north side of the river engaged in the chemical business, being a concern of Mr. Ogden's; that he does not think the market for gas in his locality is limited, but that he could sell considerably more at a higher price if he had it; that he does not fix the price of 14 cents as the price of gas in the ground; that if he had his wells out in the country in the absence of any public utilities or any other markets the value of the gas would be a guess; that he would not attempt to fix a value for it under such circumstances.

That he sold gas to the Owens Bottle Company, Montgomery Gas Company and Marmet Gas Company at the prices of 10 cents to the Owens Bottle Company, 12 cents to the Montgomery Gas Company, and 15 cents to the Marmet Gas Company; that to those three consumers he sold nearly a million feet a day during the year 1923; in

the year 1924 the Marmet Gas Company only used about 100,000 feet a day, the Montgomery Gas Company about 200,000 feet, and the Owens Bottle Company about 700,000 feet, so that it would be about a million feet a day for 1924.

[fol. 445] J. G. Ward testified in substance and effect as follows:

That he lives at Charleston, West Virginia, and is engaged in the oil and gas business principally, and has been so engaged for about thirty years; that he is now connected with the South Penn Oil Company and has been connected with it for 27 years; that he is division superintendent for that company in the territory south of the Little Kanawha River; that the business of his company is divided into two divisions, oil and gas, and that he looks after both these divisions indirectly; that his company purchases gas in the territory in which he has charge and has been purchasing such gas for about a year or eighteen months; that the gas it purchases is from the Clendenin pool in Big Sandy district, Kanawha county, and that it has been paying therefor on an average of about 8 cents a thousand.

(No cross-examination.)

Ben C. Grosscup testified in substance and effect as follows:

That he lives in Charleston, West Virginia, and has lived there practically two years, engaged in the business of pro-[fol. 446] ducing, purchasing and selling natural gas, and has been in that business for the two years that he has been in Charleston; that he is vice-president and manager of the Charleston-Dunbar Natural Gas Company and has been such for the period of two years; that he purchases gas for that company in Putnam and Lincoln counties in what he commonly calls the Turkey Creek field, and that the price he has had to pay for gas in the past two years varies from 9 to 12 and 14 cents at the mouth of the well.

Cross-examination:

That he had purchased gas in Lincoln and Putnam counties, in what is commonly called the Turkey Creek field, at from 9 to 12 and 14 cents at the mouth of the well; that these purchases in the last two years have varied from about 20 million to about 60 million feet a month, depending on the weather conditions—that is, approximately—it runs from 25 to 40 per cent. of the company's total sales; that it varies from 25 to 60 millions a month, an average of 35 to 40 millions a month; that this gas is purchased from different companies, J. W. Smith & Company, Coal State Gas Company, Henderson Development, Laurel State, King [fol. 447] Gas Company, Star, Tampico Gas Producing Company, Kirtley, and King & Kingry. During that period these last two named were consolidated into other companies, and that he also had a right to purchase from the South Penn Company at the price of 14 cents, but it was never exercised; that the Charleston-Dunbar Natural Gas Company needed gas very badly; that the prices arrived at and paid by him were generally after a great deal of fighting to get them down to the price that was actually paid; that in most instances the gas was delivered at the mouth of the well or on the lease.

Edward Reynolds, Jr., testified in substance and effect as follows:

That he lives in Cincinnati, Ohio; that he is treasurer and assistant secretary of the United Fuel Gas Company, and has been such for a little over a year and a half; that he has the same official position with the Columbia Gas & Electric Company and most of its subsidiaries; that he has made up a statement showing the minimum requirements of United Fuel Gas Company for working capital, and that the figures are based upon the actual experience of the company and upon its minimum requirements; that these minimum requirements consist of two months' operating [fol. 448] expenses, excluding therefrom bond interest and Federal taxes, $570,709.00; materials and supplies on hand, $272,335.00; prepaid accounts, $104,649.00; cash in bank, $250,000.00, or a total working capital required of $1,197,

693.00, subject to a credit of the amount obtained through accounts payable of $175,000.00, or a net requirement for working capital of $1,022,693.00; that the item of $570,709.00 is approximately the average two months' expenses of recent years' business; it is not any particular two months but is the average two months; that it is necessary for the company to have this amount because it has to meet its labor and material charges in cash in its current operations, and its cash receipts from the sale of the product do not come in coordinately with the sale of the product, but are received seven or eight weeks later, and the big cash requirements on the company come customarily at a period of the year when its earnings or cash receipts are apt to be rather below the average—that is, in the late summer and fall—and the provision of two months' requirements is not a bit excessive to meet these demands as shown by the past experience of the company, and in fact this does not represent the requirements that have to be met for bond interest and so forth a little bit — a time, and which bond [fol. 449] interest is due every six months. This amount has to be built up from month to month in order to have the money ready to meet the same when it comes due, and the same is true likewise of the items of taxes, both state and Federal.

The item of $272,335.00 represents the inventory of materials and supplies on hand as of December 31, 1923, and is the actual amount of such materials that the company was carrying at that time, and is representative of the amount which it carries throughout the year; that it is necessary to have these supplies and materials on hand at the various plants in order to meet the company's requirements; that the item of $104,649.00 for prepaid accounts is to take care of certain items of expense, such as insurance, taxes, land rentals, well royalties and items of similar nature that are customarily paid in advance for a period in some cases of a quarter of a year and in the case of insurance and taxes for a full year; and this item makes provision for the proportion of that that is not taken into consideration in the two months' average expenses; that this item is based upon the actual experience of the company for the year 1923.

That the item of cash on hand, $250,000.00 represents [fol. 450] the money which it is necessary for the company

to keep in the bank to carry on its business. The company does business over a widespread area in West Virginia, Ohio and Kentucky, through its subsidiaries. In many small communities in which it collects cash for gas sold it has found it advisable to maintain bank accounts; in most of those communities a great number of the banks act as collecting agencies at less cost to us than we could otherwise collect the money, and it is less expense to keep a deposit in the bank than to employ agents for these collections. The amount of $250,000.00 is well within the experience of the company. This amount is in some 44 banks, to which customers pay their accounts. These banks do not receive compensation for acting as collecting agencies other than the few days the money is left with them on deposit, and it is found that this is an economical way of collecting the revenue.

The credit of $175,000.00 fairly represents the average amount which the company continually owes on current accounts payable, and consequently it gets a credit for this amount, so that the net amount of working capital which the company needs, based on its actual experience, is $1,022,693.00.

[fol. 451] That the United Fuel Gas Company owns all of the outstanding stock of the Cabin Creek Gas Company and the Warfield Natural Gas Company; that he has recently had experience in selling a preferred stock of a gas and electric public utility, to wit, the Union Gas & Electric Company, of Cincinnati, Ohio, which is a well established concern, of which he is treasurer and assistant secretary; that the stock which was being offered was a first preferred stock with the customary preferences as to assets and dividends over the common stock, in very considerable ratio to the common capital stock of the company—that is, the preferred stock is less than one-third of the common capital stock of the company; that the company is an established one and has a record of successful operation and earnings in the distribution of natural gas and electricity in an important city, and is the type of utility whose securities are desired by investors. The stock pays monthly dividends of 55 cents a share, which is $6.60 a year on a $100 par value. In the last five months the company has sold over two and a half million dollars' worth of this stock.

The company undertook to put it on the market itself, selling it entirely through its own employees. Up to the end [fol. 452] of May it cost in excess of $5.25 a share to make these sales, and in addition to this cost the company used its office force and employees, who were not compensated for that purpose; that is, it does not include any salary to any executive officer of the company with the exception of one of the vice-presidents, who was in charge of the commercial operations, and includes less than one-third of his salary, and he devoted at least that much of his time to the business; that the witness devoted a large part of his time to the business, as well as the secretary of the company, but that the figure given includes no part of his salary; that to have made the sale of this stock by an outside organization that wasn't interested in it otherwise than selling it, it would have cost more, as he was advised by banking friends; that the consideration to the company for undertaking to sell the stock itself was largely that it thought it could do it cheaper than by having it done through brokers or bankers.

Cross-examination:

That the United Fuel Gas Company acquired some of the stock of the Cabin Creek Gas Company from Mr. John Davidson; that it acquired 585 shares either from Mr. Davidson or his associates, and paid therefor $130,000.00; that there was outstanding 1,300 shares of stock; that he [fol. 453] does not know what the indebtedness of the Cabin Creek Gas Company was at the time the purchase was made.

D. C. Jay testified in substance and effect as follows:

That he lives at Charleston, West Virginia, and is superintendent of the land department of the United Fuel Gas Company, and has been such for the last ten years; that he knows the witness R. E. Davis who has testified in this case, and that he furnished to Mr. Davis the information about which that witness testified in regard to the company's leases and land holdings, and that the company had on December 31, 1923, leases or deeds in fee for the prop-

erty represented in Mr. Davis's report, all of which leases were alive at that time; that monthly reports are made by him of leases acquired, leases canceled and leases expired, and a copy of that report is sent to Mr. Denning's office at Pittsburgh; that the Mr. Denning referred to is the secretary of the Ohio Fuel Supply Company who has testified heretofore in this case.

[fol. 454] G. A. Cunningham testified in substance and effect as follows:

That he lives in Charleston, West Virginia, and that he is in charge of the engineering department of United Fuel Gas Company; that his department locates the wells drilled by that company; that whenever he makes a location of a well he makes a report thereof; that this report is made upon a plat showing the boundary lines of the farm on which the well is located; that when this plat is approved as to the drilling of the well there are several copies of it made and distributed to the various officers of the company, and an entry is made on a map kept in his office of each such location; that a copy of the plat above referred to is furnished to Mr. Denning, secretary of the Ohio Fuel Supply Company, at Pittsburgh, Pennsylvania; that he also keeps a record of wells drilled by other companies in close proximity to the territory of the United Fuel Gas Company, which information is placed on the maps in his charge and is also furnished to Mr. Denning at Pittsburgh; that this information includes the location of these nearby wells as well as the production therefrom when completed; that the production of wells drilled by the United Fuel Gas Company is not sent out by the witness, but is sent out [fol. 455] from Mr. Wallace's office.

(No cross-examination.)

D. A. Ketchum testified in substance and effect as follows:

That he lives at Charleston, West Virginia, and is assistant general superintendent of United Fuel Gas Company, and has been such for about ten years; that he is familiar

with its operations in the field; that he knows the work it does, how long it takes, what material is used in it, and what lines the company has, and that he has charge and knowledge of the operation of the company's gas wells in the field; that he knows when these wells are in use and when they are not in use; that when they are turned off or put out of use it is done under his direction; that a record is kept in his office of the time they are turned off; that the information given by Mr. Davis as to when the various wells of the company were in use and how long they were in use was furnished to Mr. Davis by him from his office, and such information is correct.

That he is familiar with the stock of materials and supplies which the company carries on hand for its business; [fol. 456] that the inventory thereof was taken under his direction and furnished to the accounting department; that the inventories furnished by him to the accounting department are correct; that the information obtained in the report of Mr. Uebelacker, which he states he got from the records of the company, as to the length of pipe lines, size of pipe, and other information as to the plant of the company, was obtained from the company's records, and the same is correct, and it represents pipe lines and other appliances actually in use at the time; that this statement is true as to the material and costs shown for each of the company's wells, and likewise as to telephone lines and as to the number of meters and meter stock kept on hand; that all of the larger work of the company is done by what is known as gang formation, as referred to by Mr. Uebelacker in his testimony, and that this is the most economical way, as witness believes, for doing the work; that experience teaches this to be so; that he furnished Mr. Uebelacker information as to the cost and method of abandoning wells, and that this information was furnished from the records kept under his direction, and correctly reflects the facts in regard thereto.

That by minute pressure is meant the pressure taken [fol. 457] from a well wide open, or the open flow when the pressure at the top of the well is zero, and at the end of the first minute; that is, the pressure taken at the end of one minute after the well is closed in; that by rock pressure is meant the pressure taken after it ceases to rise, when it won't rise any more—that is the final rock pres-

sure; it may be a long time or it may be a short time; that is, the pressure taken at a time after the well is shut in and is kept shut in until the pressure ceases to go up; that he has these pressures taken of the wells of the company at various intervals and keeps records thereof, and that he furnished these records to Mr. Davis, and that the records that he furnished correctly reflect the minute pressures and rock pressures of the various wells reported; that he also keeps a record of the minute pressure of the wells above the line pressure; that by this is meant, when you come to a well on the line you take the pressure of that and then shut in the well and take the pressure after the first minute that it is shut in, and the comparison of these two shows the minute pressure above the line pressure.

(No cross-examination.)

[fol. 458] W. J. Hightower

The evidence of this witness, given before the Public Service Commission on July 1st, 1924, was introduced, in substance and effect as follows:

That he lives in Charleston, West Virginia, and is now and has been for about three years assistant treasurer of United Fuel Gas Company, and that as such assistant treasurer he has had charge of the general books of the company at Charleston, West Virginia; that he obtained from the records and books of the company certain information as to expenses and costs of operation and the cost of certain items of its property and furnished the same to Mr. Uebelacker; that he has examined the statement filed by Mr. Uebelacker as Uebelacker Exhibit No. 10, called his working papers, and finds that the information therein contained as to expenses and costs was figures furnished by him from the books of the company, and that the same are correct as to all of the figures contained in said statements.

(The Exhibit Uebelacker No. 10, as heretofore stated, is not included in this record for the reason that such figures were checked by the witness John Jirgal, an accountant for the defendants, and the same were by him found to be correct.)

[fol. 459] That the company keeps a daily record of the sales of gas made to wholesale and industrial consumers; that this record includes the deliveries at a complete city plant, including both domestic and industrial consumers; that the gas is measured before it is put in the distribution plant by a meter that is read every day; that each of the deliveries to wholesale consumers is measured by a meter which is read every day, and that he keeps a record of these measurements, and that the same as shown in Mr. Uebelacker's exhibit are correct.

That the figures contained in Uebelacker Exhibit No. 11, giving certain data in regard to gasoline earnings over certain periods, were based upon information furnished by him to Mr. Uebelacker, and that the same are correct; that he is familiar with the prices received for gasoline by the United Fuel Gas Company and subsequently by the Virginian Gasoline & Oil Company for the gasoline produced by it since the first of January 1920 in the plants formerly used by United Fuel Gas Company; that he has made up a graph showing the relative price of gasoline by years for the two companies from 1920 to 1924, inclusive, and files the same as part of his evidence, marked Hightower Exhibit No. 1 (which is hereto attached as part [fol. 460] hereof); that the figures in the first column, beginning on the left, represent the price of gasoline; that the figures at the bottom show the years covered by the graph, and that the figures across the graph over the years indicate the average price received for gasoline during each of said years; that the figures 11.45 shown upon the graph is the price being received for gasoline at the time the witness was testifying, July 1st, 1924; that all of the prices indicated on said sheet are the average prices received for gasoline for the times covered, after deducting from the amount received freight costs and charges which the company had to bear in connection therewith; that the method of arriving at the average price for the year was to divide the total amount received by the actual number of gallons sold; that he has made up a statement purporting to show the amount of gas sold to the various classes of consumers and the average price received therefor for the year 1923 and for the year ended April 30, 1924, and also the number of consumers, the quantity of gas sold, the average

rate therefor, and total revenue received therefrom for the year 1923 in West Virginia cities and in cities outside of West Virginia, the figures for making which were taken from the books of the company and from the records actu- [fol. 461] ally kept by him, and which statement he files as part of his evidence marked Hightower Exhibit No. 2 (and which is attached hereto as part hereof).

That he has also made up a statement in two sheets showing the receipts from gas sales in the cities of Huntington and Charleston by months, for the year 1923 on the first sheet and for the year ended April 30, 1924, on the second sheet, which statement was made up from the records of the company kept by him, and which was filed by the witness as part of his evidence, marked Hightower Exhibit No. 3 (and is attached hereto as part hereof).

That he has made up from the books of the company kept by him a statement showing the miscellaneous income and the source thereof of the company for the year 1923, which statement is correct, and is filed by him as part of his evidence, marked Hightower Exhibit No. 4 (and is attached hereto as part hereof).

That he has made up a statement from the books of the company kept by him showing the total gas sales and expenses, sales and revenues from West Virginia cities, mileage of transmission lines and total expenses of the United Fuel Gas Company, the Warfield Natural Gas Company and the Cabin Creek Gas Company for the years 1921, 1922, [fol. 462] 1923, and for the twelve months ended April 30, 1924, which statement is correct, and which he files as part of his evidence marked Hightower Exhibit No. 5 (and which is hereto attached as part hereof).

(The witness W. J. Hightower testified before said Public Service Commission on the 31st day of December 1924, and the evidence given on that occasion, in substance and effect as follows, is here introduced:)

That he filed heretofore as Exhibit Hightower No. 1 a graph showing the trend of the price of gasoline from 1920 to the 30th day of April 1924; that since that time he has extended said graph so as to show such trend of price to

include eleven months of the year 1924 instead of five months as in the previous graph, and files the same as part of his evidence marked Exhibit Hightower No. 1-A (which is attached hereto as a part hereof); that the figures at the lower right-hand corner of the graph "present rate 6.50" represent the price being received by the company at the time the witness was testifying for gasoline.

That he has likewise carried the statement which he has heretofore made up showing gasoline earnings and expenses for the first four months in 1924 down to and including the [fol. 463] month of October 1924, and files such statement as part of his evidence marked Exhibit Hightower No. 2-A (which is attached hereto as part hereof).

That he has also made up a statement showing the gas sales and expenses for the year ending November 30, 1924, and files the same as part of his evidence marked Exhibit Hightower No. 3-A (which is attached hereto as part hereof).

That he has heretofore made up a statement showing the accretions to the plant of the United Fuel Gas Company up to December 31, 1923, and that he has likewise made up a statement showing the increase in capital expenditures for additions to the plant during the year 1924 to *to* the 30th of November of that year, and files said statement as part of his evidence marked Exhibit Hightower No.4-A (which is attached hereto and made a part hereof); that this statement includes the net additions to investment; and by this is meant that there is not included items added to take the place of items retired.

That he heretofore filed a statement showing the gas sales by months in the cities of Huntington and Charleston for the year 1923 and for the year ending April 30, 1924; that he has brought this statement down to the year ending [fol. 464] November 30, 1924, and files the same as part of his evidence marked Exhibit Hightower No. 5-A (which is attached hereto as part hereof).

Cross-examination:

That the sales of gasoline by the Virginian Gasoline & Oil Company are not controlled by the consumption of gasoline; that the price of gasoline has been decreasing throughout the year; that the contract of the company is for its out-

put, and that when the weather is colder more gas is sold and naturally more gasoline is produced, and it is disposed of by a contract extending over a period of a year; that the company has but one contract, and that is based on the tank wagon price at Philadelphia, and the quantity supplied is the output of the company; that the item of freight referred to is for the freight on the gasoline; that the company pays the freight on the gasoline to Philadelphia or the point to which it is shipped; that there are no rebates on account of this payment, but that the same is money paid out by the Virginian company; that this practice obtained in prior years, but that the contract under which the company sells its gasoline is not as favorable as prior to 1923.

[fol. 465] Redirect examination:

That the figures on the graph 25.73 cents for the year 1920, 19.92 cents for the year 1921, 18.42 for the year 1922, 14.86 cents for the year 1923, and 10.50 cents for the first eleven months of 1924 represent the average price received by the company for gasoline during those respective periods, and that the figure 6.50 cents represents the price which the company is now receiving for gasoline.

(That the said Hightower again testified as a witness upon the hearing before said commission on the 22d day of January 1925, and his testimony on that occasion is now introduced, in substance and effect as follows:)

That he has made up the statement of gasoline expenses and earnings for the year ending December 31, 1924, and files such statement as part of his evidence, marked Hightower Exhibit No. Z (which is attached hereto as part hereof); that he has likewise made up a statement showing the amount of money borrowed by the United Fuel Gas Company by years since and including the year 1909, and files the same as part of his testimony marked Exhibit Hightower No. Y (which is attached hereto as part hereof).

[fol. 466] Cross-examination:

That the figures $12,525,000.00 are the total amount of money borrowed over the period from 1909 down to and inclusive of 1924; that the company has outstanding approxi-

mately $12,000,000.00 in bonds; that less than two million of these bonds are now in the sinking fund; that the statement showing $5,750,000.00 of bonds is because of the fact that the balance of the bonds were issued to take up other outstanding obligations of the company, which other obligations were given for the original purchase, statement Y reflecting only the new money borrowed from time to time and put into the business; that in the statement Exhibit Z there is included an item of bond interest of 34,000.00 and also the one eighth royalty under the contract between the Virginian Gasoline & Oil Company and the United Fuel Gas Company; that the increase in gross earnings of the gasoline company for the month of December over the month of June is approximately $77,000.00; that the gross earnings for the months of November and December are both larger than for the previous month, and that the earnings for those months are larger than any month since May 1924; that this is due largely to the increased production, although there was a small increase in price.

[fol. 467] (That the said W. J. Hightower further testified in open court in substance and effect as follows:)

That he has heretofore filed a statement, Exhibit Hightower No. 4 A, showing the capital expenditures made by the United Fuel Gas Company down to November 30, 1924; that since that time he has brought said statement down to include the whole of the year 1924, and that he files the same as part of his evidence marked Exhibit 3 J. C. Hightower No. 4 B (and the same is hereto attached as part hereof); that the statement indicates certain kinds of materials used in distribution, production and transmission, and the totals of each kind and the grand total of $2,044,778.24, which is the amount added to the capital account by construction completed and put in use during the year 1924; that in the case where red figures are used it indicates that the investment was decreased for those particular items—that is, that more was retired in the case of those items than was replaced; that the account for financing shows an increase of $165.75, but that this does not include any interest or items of that character, they being charged into invest-

ment costs; that all of the items included in the statement were added to the plant of the company during he year [fol. 468] 1924, and are in addition to the amounts retired in each of the accounts; that is, they are net additions, and wherever the amounts retired are in excess of the amounts added they were shown in red, and wherever amounts added were in excess of the amounts retired they are shown in black, and the net addition was $2,044,778.34; that the commission allowed approximately $660,000.00 of this; that the remaining part of it has been completed and put in use since the 30th day of November, 1924, the date the statement before the commission was based upon.

That in 1923 there was collected from the domestic service of the United Fuel Gas Company in West Virginia $1,304,429.42, and from the same service in 1924 $1,409,991.16, and from the industrial service in 1923 $995,249.70, and from the same service in 1924 $616,430.06, making the total receipts in 1923 from the West Virginia consumers $2,299,678.49, and a total from these two services in 1924 of $2,026,421.22; that in 1923 there was delivered to the domestic service above referred to 6,071,422 thousand cubic feet of gas, and in 1924 to the same service 6,564,308 thousand cubic feet; to the industrial service in 1923 5,573,285 thousand cubic feet, and to the same service in 1924 3,545,703 thousand cubic feet, a total to these two services [fol. 469] in 1923 of 11,644,707 thousand cubic feet, and to both services in 1924, 10,110,011 thousand cubic feet; that the average price received for the gas delivered in 1923 was 19¼ cents per thousand cubic feet, and in 1924 20.04 cents; that the difference in average rate is due to the fact that a larger proportion was furnished to domestic consumers in 1924 than in 1923, and that the average from domestic consumers is about 21 cents and from industrial consumers about 17.

Cross-examination:

That Hightower Exhibit 4-A, introduced heretofore, shows on November 30, 1924, and during the preceding months an item of incomplete construction of $1,334,037.10, and that the statement introduced now, Exhibit 3 J. C. Hightower No. 4-B, shows incomplete construction $80,341.60; that this is for the reason that during the month of

December the construction incomplete prior to that date was completed and transferred into the actual investment on the books; that he is in a position to say that all of the property referred to under the three heads was actually put in use during the year 1924.

[fol. 470] Redirect examination:

That the statement filed by the witness, Exhibit 3 J. C. Hightower No. 4-B, shows something over two million dollars of property added in 1924 as completed construction, while the exhibit before the commission showed $660,000 completed and $1,334,000 as incomplete; that the item of incomplete construction shows on the statement Exhibit Hightower 4-B was not all commenced in the month of November, but was done along during the year 1924 and completed and put in service in December, 1924; for instance, a compressor station, $670,000—that compressor station was completed in the month of December and put in service in that month; that the new property put in use did not produce any additional gross earnings during the year 1924; that the $1,333,000 which was not completed on November 30, 1924, was completed, most of it, in the month of December, 1924; that some of it may have been completed on November 30, but was not yet transferred into the investment account on the books.

[fol. 471] John L. Dickinson testified in substance and effect as follows:

That he lives in Charleston, West Virginia, and is vice-president of the Kanawha Valley Bank and president of Central Trust Company, and is actively engaged in the management of both of those institutions; that he has been connected with the bank about thirty-three years and with the other institution since its organization, about eight or ten years; that the institutions with which he is connected have financed some gas companies and other development propositions, and that he is acquainted with the charges ordinarily made for financing a company until it gets into operation; that the charge for financing a company for

the development of a well proven gas territory by a gas plant where there was a market for the gas—that is, to provide finances for the purpose, including interest during construction, and not including the period after it became a going concern having earning power, which would warrant a different consideration, the charge would be from 12 to 15 per cent.; that would include the interest return charge on the lump sum, as well as the charge made for financing the transaction.

[fol. 472] Cross-examination:

That he knows of such a proposition being financed in Charleston; that while he has no objection to telling, still he is of opinion that to give the name of the company would be given the public information it is not entitled to; that it would make public information which is strictly private; that the proposition he has in mind right now is a rather small one, amounting to some $15,000; that several years ago he had one that ran up to $100,000, and that the net return at that time was approximately 12 per cent., and that on another proposition, a timber and coal proposition, involving some $350,000, the charge was about the same; that there are quite a good many applications for financing such developments, but there are not so many of them accepted; that his experience is entirely local; that they were not going concerns; that he is not speaking of the class of concerns that were already in operation, but has reference to financing concerns during construction and until they had reached an earning power; that he does not know of any financing in this community of a company the size of the United Fuel Gas Company; that the financing of such a company would require outside assistance.

[fol. 473] H. A. Wallace testified in substance and effect as follows:

That he lives at Charleston, West Virginia, and has lived there about twelve years, and is engaged in the natural gas business and has been so engaged for about 33 years; that he is vice-president and general manager of the United Fuel Gas Company, vice-president of Columbia Gas & Elec-

tric Company, vice-president and general manager of Virginian Gasoline & Oil Company, president of Cabin Creek Gas Company, and president of the Warfield Natural Gas Company; that the Warfield Natural Gas Company and the Cabin Creek Gas Company are subsidiaries of the United Fuel Gas Company; that he has been general manager of the United Fuel Gas Company since about 1915 or 1916; that prior to that time, from 1912, he was general superintendent of the company; that during all the time he has been connected with the United Fuel Gas Company he had knowledge of its well drilling operations, and still has; that the reports of the results of the drilling of wells are made to him by the men drilling the wells in the field, and that he keeps these records in his office; that these records show the production of the wells from the time they are completed, and that they constitute what is [fol. 474] commonly called the log of the well, that the record of the log of the well consists of a complete report of the various formations which the drill passes through in the drilling of the well, giving the thickness of the different strata, the total depth of the well, the general results from the top of the hole to the bottom, including the gas or oil that finally comes out of it; it also shows the casing and tubing put in the well and also any casing that is removed from the hole prior to the completion of the well, and this record is kept in my office. These reports are sent from my office to the office of Mr. Denning, of the Ohio Fuel Supply Company, in Pittsburgh; that Mr. F. W. Crawford, who is an officer of the Ohio Fuel Supply Company, is president of the United Fuel Gas Company, and this information is furnished to him because of the fact that he is president of the company; that he furnished the logs of the wells to Mr. Davis for the purpose of making up his report, as well as the other information referred to by him in regard to the wells, and that the information furnished by him was correct.

That he has a general knowledge of the amount of materials and supplies which the company keeps on hand for the conduct of its business, and that it does not keep any [fol. 475] larger quantity than is reasonably necessary to meet the demands upon it from time to time; that his endeavor is to keep the supplies as low as practicable and as

good business will warrant to transact the necessary amount of work where needed.

That he is familiar with the proposed schedule of rates involved in this proceeding; that he advised with the officers of the company in making up that proposed schedule; that there are different rates provided in the schedule for what is commonly termed domestic consumers and what is commonly termed industrial consumers; that the term domestic consumers includes the householders, for heating, lighting, and so forth; the industrial service includes manufacturing rates for industries such as mills and factories and plants of that kind; that the rate proposed for manufacturing purposes is somewhat lower than that provided for domestic purposes; that the reason for making the difference in these rates in the schedule is explained by the witness as follows:

We have always known, in a general way, that the cost of service to the domestic consumer greatly exceeded the cost of the service to the industrial user, caused largely by the fact that the industrial service was secondary and [fol. 476] subordinated to the domestic service. The maximum domestic demand fixes the maximum hourly producing capacity we must have in our field, and also, very largely, fixes the maximum transportation capacity which must be maintained; and, over ninety per cent. of the distribution expense is for the domestic service; and for at least six months of the year, our chief source of revenue is from industrial consumers, that is, during the summer months, when the domestic consumer uses very little gas, the industrial consumer takes care of our finances, so to speak.

We have had Ford, Bacon & Davis, Incorporated, make a very careful investigation of the relative cost of these two services, and the schedules filed here are the result of their advice, after making a careful study of this cost. We have also taken into consideration that the industrial service has been constantly, and will continue to be, more and more, inferior, so to speak, to the domestic service, caused principally by the increased demand by the domestic users for gas in cold weather, which will necessarily cause more frequent interruption to the service to industrial users.

That the result of the study made by Ford, Bacon & Davis referred to by him corresponds absolutely with his own

[fol. 477] experience and observation of the plant, and teaches that it is a correct conclusion as between the two services; that he has observed carefully the kind of service given to domestic consumers by the United Fuel Gas Company during the time he has been connected with it, and is also acquainted with the kind of service given to domestic consumers by other natural gas companies; that the service given by the United Fuel Gas Company is of an extremely high grade—in fact, to his knowledge, more so than any gas company in the country.

That the United Fuel Gas Company sells gas delivered at Cedarville to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company; that the average price for gas delivered to these two companies at this time and as of December 31, 1923, is the same; the average price for gas during said time being $22\frac{1}{4}$ cents.

The witness being shown copies of two papers, one dated the 31st day of October 1923, purporting to be a contract between United Fuel Gas Company and the Hope Natural Gas Company, and the other dated November 12, 1923, between the United Fuel Gas Company and Pittsburgh & West Virginia Gas Company, stated that the same were modifications of a former contract or contracts upon which the United Fuel Gas Company was delivering gas to the two [fol. 478] companies mentioned, and said contracts were offered in evidence, marked respectively Wallace Exhibits Nos. 1 and 2, and are attached hereto as part hereof.

That there has been no change in the price of gas delivered by the United Fuel Gas Company to the two parent companies nor to the Louisville Company nor the Portsmouth Company; that there has been a slight modification of the contract of the Louisville Company by which a slightly higher price is received temporarily; that the increases in price made by the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company were made voluntarily by those companies; that they found that it was necessary for the United Fuel Company to spend large sums of money in preparing lines, drilling wells, building compressor stations and annually overhauling the entire system; that this expense for work of that character will run in excess of three million dollars, while the budget as worked up calls for expenditure of two million nine hundred and

some thousand dollars; that owing to the wet weather, bad roads, and so forth, the actual expenditures will go considerably over this, but the expenditure of this money will not increase the output but it will merely maintain it at the late level; that he will be very well pleased if we main- [fol. 479] tain it at the same level that has been established, and that the additional wells are being drilled and the compressor stations established for that purpose; that the United Fuel Company agreed to do a certain amount of drilling and to make certain expenditures as a consideration for the Hope Company and the Pittsburgh & West Virginia Company agreeing to the increased price; that this was work, however, which would have had to have been done regardless of the change of contract; that the particular things that were to be done as consideration for the change of contract were simply stated in a conversation in the Pittsburgh office and there was no record made of it, and the witness cannot state what they were any more than that they were general additions that would have been undertaken had the contracts not been concluded.

Cross-examination:

That the City of Charleston is a consumer of natural gas, and that he thinks the city of Huntington is also such a consumer of natural gas, both from the United Fuel Gas Company; that the Columbia Gas & Electric Company and the Ohio Fuel Gas Company are purchasers of gas from the United Fuel Gas Company; that they are both public utilities, their main business being in the state of Ohio; and that [fol. 480] they are regulated by some governing body in that state; that the Huntington Development & Gas Company is also a public utility at Huntington, West Virginia, and Ashland, Kentucky; that to the best of his recollection the Sovereign Oil & Gas Company is owned by Huntington parties; that it is not a public utility as far as he knows; that at the present time it is either selling or contracting to sell some gas to the Louisville Gas & Electric Company, and it also uses some to make carbon black; that there are a number of other small companies selling gas to the United Fuel or to the Huntington Development & Gas Company, one or the other; that the Charleston Dunbar Natural Gas Company is also a public utility, as is also the Montgomery

Gas Company; that he does not recollect of any other public utility gas companies in this section of the state; that he does not remember the number of gas wells drilled by the United Fuel Gas Company during the year 1923, but that it is in the neighborhood of fifty wells; that in the year 1924 it had completed, up to the time the witness was testifying, December 30, 1924, between eighty and ninety wells, all of which were gas wells except perhaps one or two oil wells; that the number of wells drilled will run pretty close to his estimate in the budget above referred to by him; that [fol. 481] the wells were drilled mostly in Roane county, some in Kanawha and possibly some in Jackson; that he was, at the time it was made, familiar with the division of the areas of proven and probable territory testified to by Mr. Davis; that the wells drilled during the year 1924 were practically all drilled in proven territory, what gas and oil men call inside territory—that is, proven or probable territory; that he testified about two years ago before the commission in another hearing that the amount of operated acreage of the company was 70,755 acres; that that acreage has been enlarged since that time, but that he could not state to what extent without going over the maps, nor could he give any idea as to the extent without making this examination; that he meant by operated acreage that that was practically operated; that it was determined by figuring that a well operated a certain amount of acreage or tested a certain amount of acreage; that he has forgotten how many acres he allotted to the well, possibly fifty to a hundred acres; that it would no doubt be true that the rest of the acreage was classed as unoperated, unless he classed a part of it as probable gas acreage or proven gas acreage, which should have been done; that he couldn't state whether there was any discussion two years ago as to that; that he possi- [fol. 482] bly made the statement at that time that the company had 826,243 acres, of which 70,255 acres were classified as operated, and 755,585 acres as unoperated, as it sounds reasonable that he would make a statement of that kind; that he could not really say what the figures would be as to the part of the 755,588 acres which would be considered proven, what part the probable acreage, and what part wild-cat acreage at that time; that it would be to a considerable extent what he would call proven or probable acreage today, with the exception of what drilling he has

done as proven otherwise as to the confirmed ideas we had at that time; that he does not think that he included in his classification of operated acreage all the proven territory; that in the 755,588 acres there was included both proven and probable acreage; that there has been consideration given by the company before this time to the classifications of proven, probable and wild cat acreage; that this was given by Mr. Ralph E. Davis, who he believes testified to the division of acreage; that he cannot state how many wells have been drilled in the last two years in what is now classified as probable territory, nor to what extent the proven acreage has been extended during that two years; that the chances are that two years ago in making the statements he made [fol. 483] relative to the producing territory and the wild cat territory, as he originally stated, the wild cat territory would take in everything except the actually proven territory, although there would be a large amount of this acreage in his mind that would be practically proven gas territory, and a great deal of it very probable gas territory, to the best of his judgment, from the field drilling that has been done previously; that the operated acreage is merely the wells that have been drilled, allowing a small amount of acreage around each well, which we knew between those wells was proven territory, but he could not state how much it would enlarge any certain classification; that the purpose of his testimony before the commission previously was to let them know how much operated acreage the company had and how the reserve was carried; that no doubt the commission would understand that he considered a great amount of this wild cat was probable acreage, or he would not be carrying it; that it has been the history of the company to carry a large proportion of wild cat acreage, and acreage that is either included in proven or probable acreage, and that he would have very good reason for thinking it was practically proven gas territory; that in his ex- [fol. 484] perience as a gas man he would not take up acreage and carry it unless he had some reason for believing it was underlaid with gas, and that he is certain that a great amount of the other acreage is underlaid with gas.

That he recollects going over the proposition with Mr. Davis and allotting the acreage as to proven and as to probable and wild cat acreage, but that he does not recollect whether it was brought out on the hearing in the former

case; that he recalls the testimony on the former hearing in substance that the company had approximately 826,000 acres of territory under lease, and that he and Mr. Davis testified that 70,255 acres was operated acreage and 755,000 acres unoperated, and that in order to ascertain the estimate of probable reserves the company has in gas, the then present wells of the company, according to the estimates and methods used, would have 123 billion cubic feet of gas; that in addition to that Mr. Davis and the officers of the company had made 871 locations, both in operated acreage and unoperated, approximately about 160,000 acres, and from which an estimate was made of 228 billion cubic feet, making a total of 351 billion cubic feet of gas; that the estimate now made of 663 billion cubic feet of gas is very easily determined from the wells drilled [fol. 485] since the former estimate; that the wells referred to on the locations formerly could be readily drilled in United Fuel Gas Company's acreage, and should be practically all producing gas wells; that there could be that many legitimate locations made, all of which should be producing gas wells; that he testified on the former hearing referred to that a great majority of the tests developed by the United Fuel Company lie in Spencer or Roane county field, Clendenin field and Kanawha field; that practically all of the unoperated territory is not tested and known territory; that a very small percentage of it is; that the Clendenin field is a lighter field than the territory north of it, and that there is a lot of acreage in that field that is still doubtful, and that the above statements hold true today; that there is a small proportion of the company's gas acreage proven as compared to the total amount carried; that the 136,000 acres treated by Mr. Davis as proven is, he considers, a small percentage of over 800,000 acres; that he agrees with Mr. Davis that there is 126,000 acres which is practically proven and classified as probable, which, combined with the proven, would make about 25 per cent. of the total, which he considered a small proportion; that it is necessary to carry a large amount of acreage in any [fol. 486] utility, and it has reasons for picking up, holding and carrying this large amount of acreage with the future in view; as to it being designated as probable territory,

it is practically closed up in a large, solid block, and no doubt one-half of this will be proven up to be valueless—one-half of the number of acres we have under lease; that he will be very well pleased if it is proven fifty per cent. of the acreage the company has is gas territory; that he absolutely thinks at the time he was testifying on a former hearing that one-fourth of the acreage was proven or probable; that in his judgment he always felt that the company had that amount of gas acreage; that the greater part of the wells drilled since that time were drilled largely within what was considered proven and probable territory; that he does not recollect at that time making any estimate of the gas reserves; that he may have seen Mr. Davis's estimate; but that the difference in the amount is easily answered by the fact that the drilling that has been done since has shown the acreage up as proven; that he does not believe that there has been a well drilled since that time that did not justify the conclusion that it was proven acreage; that he has not, to the best of his recollection, sur- [fol. 487] rendered any productive territory in the last two years; that the proven acreage has been increased and not decreased, but that he cannot say to what extent; that he would say that the company has more proven gas acreage today than it had two years ago; that there has not been a great deal of change as to the probable gas territory, but possibly that has increased to some extent; that he couldn't give an intelligent reply as to the increase in the gas reserves by the development in the last two years; that he agrees with Mr. Davis in his figures as to the amount of gas, and feels satisfied that they are correct, and that he was equally satisfied with the figures he gave two years ago as to the gas reserve under the so-called proven acreage; that he thinks Mr. Davis's report is about as fair an estimate as could be obtained as to the gas reserves; that he stated in the hearing two years ago that there was nothing to lead him to believe that there were large gas reserves outside of the present fields; that the production of more gas would involve drilling on the property already acquired; that he testified on that occasion that because of the increased domestic demand it was necessary to curtail the supply to industrial consumers; that at the time the witness was testifying, on December 30, 1924, the tempera-

[fol. 488] ture was ranging about 20 degrees above zero, and it was necessary then to cut off the supply to all industrial business; that the purpose of this curtailment was to take care of the domestic consumers; that the facilities are only sufficient to fully meet the domestic demand at peak load times; that the wholesale consumers are also proportionately cut back during such times; that the Ohio Fuel Supply Company has been curtailed on cold days; that the supply to the Ohio Fuel Supply Company and the Columbia Gas & Electric Company is for domestic service at Columbus and Cincinnati; that the gas sold by the United Fuel to the Hope Company is for domestic purposes, and the same is likewise true of the Pittsburgh & West Virginia Gas Company and the two Kentucky companies; that the Columbia Gas & Electric Company and the Ohio Fuel Supply Company are not curtailed as are the Hope Natural Gas Company and the other companies referred to, because they have the first call on the gas in accordance with their contracts; that necessarily during cold weather the supply to the Columbia Gas & Electric Company is increased; the supply to all companies is increased in cold weather; that the supply to the Columbia Gas & Electric Company is not proportionately larger during the cold weather than the other domestic service.

[fol. 489] That an increase in the supply to the Columbia Gas & Electric Company on one day of ten to fifteen per cent. over the previous day would indicate that the weather was that much colder and that the gas was needed; that the Columbia Gas & Electric Company is the parent company; its owns the gas, and it has always been the practice to take care of its needs, and to that end the supply to industrial consumers is curtailed if necessary, and that if it became a question between the supply to industrial consumers and the parent company on the coldest days the parent company would receive the preference, if it was supplying gas on those days to domestic consumers only; it was to take care of the domestic consumers, and necessarily he feels they should be taken care of in preference to the industrial consumers; that the Columbia Gas & Electric Company and the Ohio Fuel Supply Company are the parent companies who own the United Fuel Gas Company, and they have prior rights to the gas for that reason, as well as prior con-

tracts for the gas, and it is so stated in the contracts with the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company; that there has been in the last few years an increasing demand from domestic consumers for natural gas; that he could not state how much increase [fol. 490] there had been in 1923 over the year 1921; that the circumstances under which the contracts which he offered in evidence with the Pittsburgh & West Virginia Gas Company and Hope Natural Gas Company were made were that the United Fuel had a prewar contract with the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company extending over a period of ten years from 1916; the price beginning in 1916 was about 10 cents a thousand, and at the expiration of the contract it would be about 15 cents a thousand. Conditions became such that we could not comply with that contract unless at an enormous loss; and that the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company realized—as they were in the gas business they knew the increased price of material, drilling, and the enormous depletions of the field; that the average gas per well was so much more when the contract was made; that it would be good business for them to grant us an increase in the price called for in the contract, no doubt thinking that it would stimulate our drilling and installation of compressors and things of that kind, so as to give them a supply of gas when they needed it; that the maximum amount required to be delivered, as he recalls, was 20 million feet per day to each company; so he met with the officers of the Hope Natural [fol. 491] Gas Company and the Pittsburgh & West Virginia Gas Company, and they agreed to increase the rate called for in the contract for one year; after the expiration of that year another meeting was held in which they gave a further increase; that these meetings took place with them and he believes on all occasions the United Fuel was given an increase in the price over the previous year; that the supplemental contracts which he files expired on the 31st of July 1924 as to the increased price; that the gas being sold to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company at the time he was testifying was at approximately the same price as that mentioned in the contracts; that there are no rebates nor

any concessions in the price nor any adjustments to be made hereafter with reference thereto; that the quantities provided for were being delivered to the Hope Natural Gas Company until the recent cold spell, when it was necessary to curtail the amount considerably; that the United Fuel Company was delivering practically 20 million feet a day until the cold days, when it was cut to about 12 million feet; that the supplemental contracts with the Hope and Pittsburgh & West Virginia company were made because those companies realized that the United Fuel Company [fol. 492] could not deliver the gas at the price mentioned in the old contracts; that he supposed the Hope Natural Gas Company needed the gas or it would not be purchasing 20 million feet a day and paying 22 cents for it, or in excess of 22 cents; that during the last year he has made contracts to purchase gas from smaller producers in the field; that the last contracts he recalls he paid 15 cents a thousand for the gas at the wells and agreed to spend approximately $120,000 in laying the pipe lines, and gave to the party with whom he contracted what he considered practically 1,000 acres of proven gas or oil territory; that that was mostly in Roane county, a small proportion in Wirt county; that it looks very much as if we will not be able to purchase gas at any less price in the future; that this is on account of the competition from the Hope Natural Gas Company and the Manufacturers Light & Heat Company, who are at present laying a twenty-inch line down through the United Fuel Company field and pay as high as 18 cents a thousand for the gas for the first year, which is to be increased in future years, and this is gas from which the gasoline is removed; that prior to this time he has been able to make contracts with producers in the field for 8 cents per thousand, with one-third of any increase which might [fol. 493] be received in the cities in West Virginia; that the contract to which he referred for the purchase of gas at 15 cents per thousand feet at the well, with some additional considerations, is on what is known as the Heck property in Roane and Wirt counties; that competition from companies in the northern part of the state offering about 18 cents per thousand for the gas compelled him to pay 15 cents per thousand, as well as the other considerations mentioned, which he considered better than 18 cents all told.

That he realized that he had competition that must be met if he was to remain in business, and thought it would be good business to purchase that gas even at a higher price; that up to the present time only one or two wells have been completed on the property, the first one being drilled in the neighborhood about a year ago; that he realized as soon as the first well was completed that he was going to have competition in securing the gas; that the other company was bargaining for it, and he was only successful in securing it through the transfer to the owner of this valuable gas or oil acreage, as they considered it, which is in close proximity to gas and oil territory and directly on a 45 degree line; that they evidently considered that more valuable than the 3 cents additional offered by the [fol. 494] other company; that 18 cents is as much as United Fuel Company secures for industrial gas in Charleston, and it couldn't pay 18 cents and stand the leakage and the big investment in compressor stations to transport it to the city, where it would be consumed; there would be about 5 per cent leakage and an enormous cost of distribution plant; that the increase in prices referred to by him is the direct result of other large gas companies coming into what has been known as the United Fuel Gas Company's territory to get gas; that in addition to the Hope Natural Gas Company, referred to by him, the Manufacturers Light & Heat Company, of Pittsburgh, have a line into Roane county at the present time, and they expect to get gas from the Ohio Fuel Supply Company, which, in turn, will get the gas from United Fuel Company or its territory; that the Manufacturers Light & Heat Company pipe line is possibly ten or twelve miles from the United Fuel Company's line; that he has known in a general way that the Manufacturers Light & Heat Company would be willing to purchase gas if the United Fuel Company could sell it to them; that he has had no dealings whatever in regard to building a line into Roane county, the negotiations having been all with the Ohio Fuel Supply Company; that the South Penn Oil [fol. 495] Company built a line from Minors down through practically all the United Fuel Company territory and are closing contracts for the purchase of gas, as well as transporting gas of their own production to the Hope Natural Gas Company at Minors; that these operations have been

conducted for possibly eight or nine months or longer; that he is not able to determine the price they are paying for the gas; that he was not present when the South Penn Company's representative testified that he was paying 8 cents; that he has been trying to find out what they have been really paying for it, but has been unable to do so; that he would judge that the statement of their representative was correct, however, but he does not know what quantity of gas that company has purchased; that they have an eight-inch pipe line; that there has been considerable activity since the construction of the above lines by the Hope Natural Gas Company and the South Penn Oil Company upon the part of other companies to acquire the outside production, with practically no results to anybody but the Hope Natural Gas Company, as they closed up contracts 100 per cent—in other words, all available gas has been secured by it, as it can afford to pay better than double what the United Fuel could; that the reason for this is that they could [fol. 496] double the price of gas in the northern part of the state and elsewhere; that about three-fourths of the United Fuel Company's gas production is disposed of to wholesale consumers, and the prices are the result of private negotiations or arrangements; that the United Fuel Company did not advise the Hope Company that it would not supply it with gas, nor intimate in any manner that it wouldn't fulfill the contract that it had, but the Hope Company knew that it would be impossible for the United Fuel to comply with it except at a great loss, and that they were receiving higher prices for gas in their markets, and on that account granted us an increase on the amount which they purchased from us; that from their markets in the northern part of the state and elsewhere they could no doubt make a profit at the price they are paying; that he was of the impression that the Hope Company had about 5,000 wells, but the Hope and the Reserve Gas Company are closely allied; that the figures of sales by the Hope Company of 59 billion cubic feet of gas, with its wells, in comparison with 47 billion feet by the United Fuel with 790 wells, are approximately correct.

That prior to the very active competition above referred to the contracts closed for gas in this territory were ap- [fol. 497] proximately at 8 cents a thousand; that the Hunt-

ington Development & Gas Company and the Columbia Gas & Electric Company are paying in that field 8 cents per thousand cubic feet, with one-third of any increase received in the cities of Charleston and Huntington.

That in regard to pumping water off of some of the sands, he would say that take all the gas wells, after the volume becomes small and the rock pressure declines, they begin to show water in the sand, and in some instances that necessitates moving a rig and tools and digging a pocket at least fifty feet in depth below the gas producing sand, installing a string of tubing and pumping outfit, which necessitates a gas engine or steam engine to operate it; that this water then must be extracted from the well through this pumping process where originally it flowed into the lines and was taken out through drips, which is quite a considerable increase in the cost of operation where you have water in the wells; that this condition is gaining considerably; that we are getting more and more of it as the wells become older; that the water feeds into the sands as the pressure is released, and the small amount of water that is in the sands feeds into the well, and this has to be removed or it drowns out the gas, and where it is in an [fol. 498] oil field the oil has to be removed or handled in the same manner; that he couldn't say that that condition is more pronounced in the Branchland field than in the Spencer or Clendenin fields; that the trouble in the Branchland field is with what is known as salt congestion on the tubing, which makes operation very difficult and necessitates the use of a swabbing machine to break that salt; that there is quite a bit of water there, but that he could not say it is greater in that field than in others when they get old; that he is installing quite a number of pumping outfits in the Spencer and Clendenin field; that the water comes in toward the well with the pressure that is behind it, although there are some instances where the casing is leaking and it is handled through a pumping outfit.

That on a previous hearing he testified that the gas available for industries would be less as the years went by, and that in cold weather there is very little gas for industrial purposes; that he does not think the reserves are double what they were when he testified before; that it is practically a physical impossibility, on real cold days, to get a supply

of gas that would take care of the domestic business as well [fol. 499] as the industrial consumers; that the United Fuel has facilities to transport the gas, but the supply on those days is not available; that on cold days the consumers in this state require the total capacity of the transmission and distribution lines; that if there were no consumers except those in West Virginia the lines would be ample to take care of it in most cases, and in some cases they wouldn't; in some cases the domestic and industrial could be taken care of, but in others he does not believe it could.

That the carbon black situation has entirely changed since he testified formerly; in fact, it is now entirely eliminated—that is, that at present prices carbon black could not be profitably made; that he understands there is an over-supply of carbon black on the market today; that he is familiar to some extent with the Huntington Development & Gas Company property; that he is a vice-president of the Columbia Gas & Electric Company, and also vice-president of Huntington Development & Gas Company; that the purchases of gas of the Huntington Development & Gas Company are referred to him; he has absolute charge of it; that the purchase of gas by the Huntington Development & Gas Company remains the same as it was before the Columbia Company purchased it; that it has made no contracts for more [fol. 500] than 8 cents and has had no negotiations on more than 8 cents; that in the Branchland field, to the best of his information, the price has never been more than 8 cents; that the cost to the Huntington company to bring the gas to the top of the ground possibly exceeds the cost to the United Fuel company; that the Columbia Company would have possibly more expense, on account of the age of the wells, and the gas in the Branchland field purchased by the Huntington Development & Gas Company and the Columbia Gas & Electric Company would not average quite as much per well as the United Fuel wells, although the cost is very close; that he does not know the difference in cost, but that he accepts Mr. Uebelacker's figures.

That the Huntington Development & Gas Company has its distribution plant in the city of Huntington; that it owns its administration buildings and its mains in the streets, constituting a complete distribution plant; that

the United Fuel Company also has a complete distributing plant in the city of Huntington; that the Huntington Development & Gas Company has practically all the industrial business in Huntington, the United Fuel supplying a small amount thereof in comparison with the Huntington Development & Gas Company; that the United Fuel Company has [fol. 501] about 70 per cent. of the domestic consumers; that he does not recall the number of domestic consumers, although he sees them often; that both companies have an organization for administration and distribution; that he could not even make a guess as to the number of farms in the Spencer pool or field which have not been drilled, nor could he do so in any of the other fields.

That there is a form of lease that is generally applicable to the United Fuel Company's entire territory; the average term of the lease is about ten years; that at times when it is not advantageous to drill a well the land owners are paid a well royalty by agreement—in other words, the same rental they would receive for a well if one was drilled, in order to prevent the lease from lapsing; this arrangement is made for extension of the lease for a period of five or ten years; that he does not consider the Mammoth field around Cedar Grove the largest producing gas area of all the fields per thousand feet per acre; that it is a very prolific sand, and is a little above the average, but that it does not compare with the Injun sand in Roane county, in his opinion, because of the longer life of the wells in Roane county; that the gas at Cedar Grove is in what is known as the Weir [fol. 502] sand, a shorter lived sand than either the Berea or Injun; that there are some extremely large wells in that vicinity, but the head goes off rapidly; that if he were buying gas acreage for a carbon black plant he would pay more for the Injun sand in the Roane county field than for the acreage at Cedar Grove; that this is based on the life of the well and the life of the sand, the total quantity of gas that will ultimately be purchased therefrom.

That for a short distance below Balls Gap the lines of the Columbia Gas & Electric Company and United Fuel Gas Company are parallel; that all of the system is practically connected up so that gas can be sent from any field to any part of the system.

Redirect examination:

That if the United Fuel Company cut off all of the wholesale consumers during the cold weather in times of peak load, that in most instances or some instances it could supply the industrial and domestic demand both in West Virginia; that he has information of contracts that the Hope Natural Gas Company is making in the field for the purchase of gas for 18 cents per thousand cubic feet; that he would prefer not to state the parties with whom it is made; that the quantity involved would possibly be two or three million [fol. 503] feet daily; that he tried to purchase that gas for the United Fuel Gas Company but was unable to get it because he could not pay the price; that he believes from several contracts he knows of that the price of 18 cents holds good, with an increase as the years go by.

That the line which the Hope Natural Gas Company is building into this territory is a twenty-inch line; that it is building but one such line; that assuming that it will build compressor stations to operate the line efficiently, it will carry approximately 75 million feet of gas a day, and that that would pretty well clean up all there is to get; that if the United Fuel Company were getting the price that the Hope Natural Gas Company gets when it transports the gas to Pittsburgh it could pay the same price and still make money.

That he files as part of his testimony a statement showing the amount collected on account of the minimum charge of 50 cents per thousand cubic feet, and the percentage that this is of the total collections for gas, marked Wallace Exhibit No. 3, and also a statement showing the amount of gas purchased during the year 1923 and eleven months of 1924 by the United Fuel Gas Company, with the names of the parties from whom such purchases were made, marked [fol. 504] Exhibit Wallace No. 4 (both of which statements are attached hereto as part hereof).

Recross-examination:

That it is true that if the United Fuel Company were allowed the same rate for which the Hope Company is selling gas he would be able to pay similar prices for gas; that it is not true that three-fourths of the United Fuel Gas is

under its own control and upon which it can fix the price at which it can sell it; that it has contracts with wholesale consumers which contain an obligation which must be recognized; that the commission has nothing to do with that, nor does the consuming public; it is a part of the wholesale contracts which the United Fuel Company is obliged to fill; that these contracts were voluntarily entered into by its predecessor; that he supposes the contracts were entered into voluntarily, and that at the time when these contracts were made they were all right, but it was a case of bad judgment and they are not now profitable contracts; that this is not the only reason however, that the United Fuel Company cannot compete with the Hope Natural Gas Company and other competitors; that it is true that taking gas at 15 cents per thousand it is losing money, but that if the United [fol. 505] Fuel had what it considers an adequate rate for gas in West Virginia it would probably be able to meet the competing companies; that the United Fuel Company does not sell gas at wholesale for less than 15 cents; that it is true that its contracts with the parent companies are at a less rate, but that the agreement with the parent companies is not a price figure on the purchase of gas, and they are not the contracts which he refers to as unwise; he is referring to contracts with the Louisville Gas & Electric Company and the Central Kentucky Gas Company, both of which extend over a number of years; that in the case of the Portsmouth Gas Company the contract had expired some time since, but that during one spell of cold weather he permitted them to have gas; that the Louisville Gas Company gets from six to ten million feet a day on a cold day; that they do not take any gas during the summer; in other words, the United Fuel only takes care of their cold weather needs, and that is the bad feature of the contract.

That he would much prefer not to have the contracts with the Hope Natural Gas Company and the Pittsburgh & West Virginia company; that if this gas was not bound up by those contracts he is sure he could get more money for it; that the Manufacturers Light & Heat Company [fol. 506] would pay a better price for it; that the contract with the Hope Company will be out in 1926 unless there are other arrangements made; that it is true that a very substantial part of the output of the United Fuel Company

goes to the two parent companies, and they, in turn, sell it to domestic consumers at a very much advanced price over the prevailing price in this section of the state.

That at the present time the Heck wells heretofore referred to by the witness are securing about a million and a quarter feet a day; that he does not know how much gas was secured by other companies which he was unable to get because he could not pay the price demanded, but would not be surprised if it did not run to twenty or thirty million feet a day; that a considerable portion of it is gas that has been developed for some time; that he is buying it now for the United Fuel Company, but it will be taken away as soon as the Hope line is in; that it is purchased by the United Fuel Company on a short term contract because it could not afford to pay the price except in winter time; that the amount of twenty or twenty-five million feet a day is merely a guess; that he knows the Hope company is purchasing gas from all the carbon people, the South Penn, and Carter Oil Company, so that no doubt it gets quite a [fol. 507] bit of gas; that there has been no time at which he could buy this gas at 8 cents or less; that the leakage in a pipe line for the distance from Branchland to Huntington, if it was the United Fuel Company's lines, would be possibly one per cent; if it was somebody else's possibly three per cent; that he thinks the United Fuel Company takes better care of its lines than other companies; that he does not think it would be much over one per cent; that the loss in the distribution lines runs anywhere from 5 to 20 per cent in some places that he knows of; that the line leakage depends a good bit on what kind of pipe is used; that in a screw pipe there is much more leakage than in a dresser joint put together with rubber couplers; that in a screw joint line every joint will leak; that whether more than 5 per cent. would be lost would depend altogether on the kind of pipe and how it is kept up.

That it is a difficult question to answer as to what time it will take to exhaust the proven and probable areas owned by the United Fuel Gas Company; that you take in Mr. Davis's report the figures of available supply of gas still remaining in the territory known as proven and operated acreage; there is still a certain amount of gas underlying that acreage, and it would depend on the length of time it

[fol. 508] would take to deliver that to market; it could be easily figured out on that line. While I think Mr. Davis's judgment in regard to that has proven rather conservative, I am still of the opinion that it is a very fair estimate. I think it would take a longer period than eighteen years to market the gas. It would depend a great deal on how the property is operated and, of course, the amount of gas taken out each year and a lot of other factors, but he believes that it will take a longer period than eighteen years; that he does not make the statement that he will be able to sell that amount of gas for eighteen years, for as you reach the twelfth, thirteenth and fourteenth years you will have to sell it in much smaller amounts and it will be stretched out over twice that period of time; that he would not care to hazard a guess as to the length of time it would take; that the whole thing is a matter of judgment, and that in his opinion there is going to be a considerable amount of gas for a number of years; that if you increase the amount extracted it will cut down the number of years it will take to extract it, so that the rate at which the gas is extracted has everything to do with it, so that in his judgment the proper way to compensate for the gas is to pay [fol. 509] for the particular unit as it comes out; that in speaking of the 663 billion feet Mr. Davis used for the amount of reserves he meant that this was the minimum amount; in other words, he believes that his report is very conservative; that there should be at least the amount of gas he estimates, and he believes there is considerably more.

J. A. Peirce testified in substance and effect as follows:

That he lives in the city of Huntington and has lived there for four years, is engaged in the production of natural gas and has been so engaged during the last four years in West Virginia; that he has had occasion to construct and provide a plant for the production and distribution of natural gas in West Virginia in Mingo county, and that he kept a record of the cost of the various items of construction going into the plant and of the items of overhead actually spent in the construction of it; that he has made up a statement showing these various items of cost of con-

struction, including overheads, and files the same as part of his evidence, marked Peirce Exhibit No. 1 (which is attached hereto as part hereof).

[fol. 510] Cross-examination:

That the authorized capital stock of his company is $3,000,000.00, and its headquarters is at Huntington, West Virginia, and it is incorporated under the laws of the state of Delaware; that all of the capital stock was paid in for leases and property; that he does not know how much of the stock was actualy paid for in money; that some of the stock is held in Huntington, some in New York, some in Butler, Pennsylvania, and all over the country; that he is not prepared to say how much money was paid in for the stock; that the item of engineering and superintendence, $13,511.38, equal to 3.66 per cent., covers a period of two years, included in which was the salary of engineers and the salary of men doing the work and one-half of the general expense of the office; that the organization was Mr. John Young, Mr. George Cox, Mr. George Johnson, and V. B. Lamb, who were the superintendents building the plant at Breeden; that in addition to this there were several miles of line made; that the $12,659.74, expense of administration, covered by traveling expenses, general office expense, postage and so forth; that the traveling expense is for the men going to raise the money, contracting for the different [fol. 511] wells, and different meetings where they were held around the country; that the directors' meetings were at one time held in New York and later changed to Huntington; that the item of interest on physical property, $41,226.97, is the interest on the $368,000 of money in connection with the construction of the property; that it began on the first of April two years ago, and was all paid in after the first year; that he did not have the whole $368,000 at the beginning; that he had a few gas wells out in Mingo county and an old pipe line; the year after that he had a pumping station complete and a new pipe line and four wells drilled; that these improvements were made from a bond issue.

That the item "pre-construction costs" covers two years, the principal part of which is the first bond issue; that

covers the expense of the Superior Oil & Gas Company, which was purchased, and legal expenses for searching the title, the appraisal of the American Appraisal Company, the geological report, maps, and so forth, and the expense of the New York office, legal expense; $14,796.33 is the expense of the New York office and expenses incurred in the purchases of the new properties and in searching the title.

That his company has 14,000 acres; that the production [fol. 512] is five million feet a day at the present time, which is sold to the United Fuel Gas Company and the Columbia Gas & Electric Company; that he does not think it is necessary to maintain a New York office and a Huntington office for such a company as his; that the first bond issue was in April 1922; that the next one was in 1923 on the first of May, $600,000.00, out of which the first one of $250,000.00 was retired; that there are no others; that the rate of interest on the bonds is 7½ per cent.; that the cost of financing, $25,887.43, represents the printing of bonds, recording the deed of trust, and the insurance policy that was made in favor of the bondholders, amounting to $2,852.50, $20,000.00 allowance to Mr. John E. Mahan for taking up the first $250,000.00 in bonds; he was given a premium of $20,000.00, these bonds being callable at 105; that he does not know how much capital was paid in at the time of the issue of the first bonds; that it is true that all of the capital used for the development of the property came from bond issues; that he would not say that such a company as his could be compared in the matter of getting money with one as strong as the United Fuel Gas Company.

[fol. 513] J. C. Blair testified in substance and effect as follows:

That he lives at Charleston, West Virginia, and is engaged in the oil and gas business, and has been so engaged since 1911; that he is connected with the Monickel Gas Company, the Commercial Gas Company and the Gas Producing Company, all of which companies produce natural gas and sell it to consumers; that all of the gas produced by the Monickel Gas Company is sold to the International Nickel Company at Huntington, a company engaged in the

production of nickel and monel metal; that this company is using now at the rate of about 100 million feet a month; that his company sells gas to the International Nickel Company at 20 cents a thousand, and that in two years from the time they started selling it, that is, about 1½ years yet, it runs to 23 cents, and two years after that it goes to 25 cents; that the gas is delivered at the Huntington plant, and costs about 2.8 cents a thousand to deliver it, the length of the transmission line being about 15 miles, and it being an 8 inch line; that he has bought gas in the field and paid 12 cents for three years and 15 cents for the next three years on a six-year contract, which was in Lincoln county; [fol. 514] that under his contract with International Nickel Company he has the right to extract the gasoline from the gas before delivering it.

Cross-examination:

That the Monickel Gas Company was organized in August 1923; that the date of its contract with the International Nickel Company was August 3, 1923; that the company was organized August 1st, 1923, and the contract made August 3; that the negotiations for the contract were carried on before the company was actually organized, and extended over a period of perhaps sixty days; that at the time these negotiations were going on he had under his control leases on about 2,500 acres of land located in Cabell county out on Mud river; some of it he paid $7.50 an acre for, some of it $5 an acre, and some of it $10 an acre—very little at $10 an acre. The Commercial Company also had some acreage at that time that it sold to the Monickel Company; two wells were drilled when the Monickel Company took it over. His company agrees to deliver a minimum of two million feet a day to the International Nickel Company; that it has drilled fifteen wells, having approximately an open flow of 8½ million feet a day; that this furnishes a supply of gas adequate to take care of the contract for the [fol. 515] present, but that he realized that it would not furnish a supply sufficient for the life of the contract; that to do this would require the drilling of additional wells; that the territory that it has is capable of having drilled additional wells thereon; that the acreage taken over, in addition to that above referred to, was procured some of

it for $25 an acre, $10 and $15 for some of it; that these figures are not for the gas rights in fee, but simply leases; that the development of the property has not been a disappointment to him; that the acreage was paid for in stock of the Monickel Company; that the additional acreage was held by the Gas Development Company; that a man by the name of Zogg conducted the negotiations for it; that the leases were dated 1920, most of them; that he took these leases up in 1920, and had them at $1 a year rental; that he does not know whether anything else was paid for them but the rental of $1 a year; that some of the officers of the Monickel Company were interested in the Gas Development Company; that they got their stock through the Gas Development Company; that the Gas Development owned this property and the Monickel Company took it over; the Monickel Company gave stock for the leases that that company turned in to the Monickel Company; then when the Monickel Company was formed the main stockholders [fol. 516] of the Gas Development Company were made officers and directors of the Monickel Company, and the same way in the Commercial Company.

That he considered that the price paid for the leases at the time was a fair price therefor in stock; that the market price of gas leases in that territory depends on the location; that it is well developed and you know what you are going to get; anywhere from $10 an acre up to $50 or $100; that he knows of people who would like to have the acreage at those figures, but it is all under lease by larger companies; that he has not heard of the larger companies paying any such prices.

That the Monickel Company began to supply gas to the International Nickel Company the first of January 1924, and that during the year 1924 it supplied around 700 million cubic feet; that it has supplied gas to no one else during that time.

H. G. Scott testified in substance and effect as follows:

That he lives at Nitro, West Virginia; that he is vice-president of the United Fuel Gas Company and has been [fol. 517] such since May 1922; prior to that time he was vice-president and general manager of the Virginian Power

Company, operating in this vicinity, engaged in the business of producing power in wholesale quantities and distributing it to consumers—that is, electric power.

That he had made comparisons and observed facts as to the relative values of the use of natural gas and other fuels for steam purposes, and testified as follows in regard to his observation and experience in regard thereto.

In the case of the Virginian Power Company, we built a plant with the idea of using coal which would cost us net about a dollar a ton delivered at the plant. Shortly after we started operation the price of coal started to rise. We endeavored to secure fuel which would, if possible, lower our cost of operation against the rising price of coal. We were able to secure from a carbon black company near Cabin Creek Junction gas at an even rate per day and per 24 hours. The total amount of gas which was furnished was approximately slightly in excess of a billion feet a year. At that time, gas was selling at 5 cents per thousand under those conditions. Of course, at that time, for some reason, they were ceasing to manufacture carbon black. [fol. 518] Shortly after that the gas price started to rise, and that made necessary very careful study and experiments to determine the relative value of those two fuels in that plant. The coal which we were using had been determined to have an average of 13,000 B. t. u. per pound of coal. Comparing the thermal content of the natural gas, we took 1100 B. t. u. per foot of gas although in certain localities in this section the B. t. u. content is slightly higher than that. A ton of 2,000 pounds of coal would therefore have 26 million B. t. u. Dividing by 100, you will get approximately 24,000 feet of gas, this being equal to a ton of coal on the basis of the calorific value only. We determined that where gas is burned to manufacture steam and coal has not been used and it is not intended to use it, the saving in initial cost of installation, due to the fact that you do not have to build storage bins, coal elevators, coal bunkers, crushing machinery, tracks, ash equipment and elevating equipment, amounted approximately to $12.00 a horse power of boiler installation in that plant at the time the tests were made, when costs were very much lower than they are today, that being approximately the year 1914 to 1915, and the plant was built on costs obtaining in 1912 and 1913. We

[fol. 519] then found that by actual operation it cost us over $4.50 per annum per horse power to fire the boilers with coal. It cost $1.50 per horse power to do so with gas. We found that the maintenance of stokers in that plant were averaging us 80 cents per horse power per annum. The maintenance of the gas burning equipment averaged 30 cents per horse power per annum, or a saving of 50 cents. So that without taking into consideration the fact that in the use of the fuel in the boiler, its efficiency is 100 per cent as compared to coal at 85, or, in other words, gas is approximately 15 per cent. more efficient than coal under those circumstances, but not taking that into consideration and merely resolving these financial credits in favor of gas into terms of feet used, we found that the equivalent of a ton of coal of 13,000 B. t. u. to the pound was 18,000 feet of gas. In other words, putting it in dollars and cents, 18,000 cubic feet of gas, if it was charged for at the rate of 25 cents, would be equivalent in the plant, without taking into consideration the increased efficiency due to the use of gas, would be equal to $4.50 coal delivered at the plant. Now, of course there is a plant where the baser fuels can be used, but where you come to a plant that you cannot have sulphur, where the application of the heat is direct [fol. 520] and the affinity, the article being heated might have an affinity for sulphur, for instance, the value of gas for that industry goes higher, as is proven in this case which I have a good deal to do with. The American Rolling Mills Company, Middletown, Ohio, who are in the steel business, and who manufacture gas in large quantities by producer plants for their heating purposes, which are special, require 800 million cubic feet of gas per annum and pay 45 cents for it; and pay that amount in the face of the fact that frequently their service has to be interrupted during the winter, which gives, of course, a true gage in an unregulated market of the value of the gas at that point and the service, because that is a contract which is in existence now.

On the question of domestic use of fuel there has been a conservation program carried on by the Department of Mines of the United States Government and the chief endeavor on their part has been to educate the householder to conserve gas and in order to do so they have had tests made, one of which was made under the supervision of the

Buerau of Home Economics of the University of Ohio. Those tests were to show the different efficiencies of different fuels. The record of that test, which I have here, [fol. 521] published in an official bulletin, is based of course upon a price of gas that we don't know anything about, so we would have to make allowance as we go, because the price of gas that they used for their calculations was dollar gas. They show in a test carried on June 7, 1917, where they cooked a breakfast for six, identical articles, but used natural gas, soft soal, coal oil, gasoline and electricity as fuels, that it took ten cubic feet of gas to cook the same meal that was cooked with 10.1 pounds of coal, 1.1 pounds of coal oil, .9 pounds of gasoline, and one kilowatt hour of electricity; using electricity at 3 cents per K. W. H. was the cost, coal at $6.50 per ton, natural gas at a dollar per thousand cubic feet, coal oil or kerosene at 15 cents per gallon, and gasoline at 27 cents per gallon, the fuel cost was one cent for natural gas, 3.45 cents for soft coal, 2.5 cents for kerosense, 3.6 for gasoline, and 3 cents for electricity. However, if natural gas at 20 cents had been used as the basis of course it would only have been two tenths of a cent for cooking that breakfast and the other figures would have remained the same.

They determined at the same time the comparative efficiency of these fuels on a basis of considering electricity [fol. 522] in that case as 100 per cent. efficient, which they state, and we know, is not actually true, but it is pretty near 100 per cent. as compared to the others. In that case, gasoline was only 20 per cent. as efficient as electricity, kerosene 16 per cent. as efficient, coal 2.6 per cent as efficient, natural gas was 34 per cent. as efficient. The efficiencies vary at another meal where it might take a longer or shorter time to cook it. The relationship of costs which I have given follows through all of the tests which they have made. Of course there are a number of reasons why that would be true but this bulletin is based solely on the question of costs and efficiency.

In the making of these tests, they adhered very closely, of course, to a scientific basis. They did do this: that coal had to be lighted before breakfast was started, or whatever meal they were testing, but incidentally, when the meal was finished, they permitted the fire to die out, whereas the standby losses in fires of that kind usually carry for a much

longer period. The value of convenience in this case was not considered. It is obvious and evident that it is more convenient to light a match than it is to haul up coal in a [fol. 523] scuttle and shovel it in and take out the ashes and shovel them out and have the ashes collected; and yet in spite of the fact that this service that is rendered by natural gas is so much more efficient, convenient and cleanly than coal, which would be the cheaper fuel, the price comparison shows that it is sold at vastly less than the cost of coal.

Some time ago I endeavored to ascertain the cost of coal in this community delivered at the houses. It is difficult to obtain in Charleston because nobody uses any coal to speak of. In Bluefield, where we went into eight or nine houses, we found that coal costs as high as $9.00 a ton delivered in the house. That was compared with the cost of two or three dollars at the mines. That is the only community that compared in this section of the state with Charleston or Huntington, as I could see it. A town like Beckley was not of value for comparison because it was neither as large nor were the difficulties of getting coal in the houses in Beckley similar to Charleston. Bluefield is in the heart of the coal fields and with that demonstrated cost it is safe to assume that the cost of coal delivered in the houses in Charleston would not be less than the $6.50 given in these tests and on the basis of these tests, with coal costing, [fol. 524] for the breakfast of six, 3.45 cents, and natural gas at a dollar costing a cent, or, based on the price we have here, natural gas would have cost two mills, that is, 34½ mills coal costs, or 1/17 of coal at $6.50 per ton.

This reflects industrially and in domestic service the result of my investigations in the value of such service.

The bulletin referred to is entitled, "Tests of Relative Costs of Natural Gas, Soft Coal, Coal Oil, Gasoline and Electricity for Cooking, Made by the Department of Home Economics of the Ohio State University, Columbus, Ohio, June 1917, and reprinted in October 1918, January 1920 and April 1920."

Cross-examination:

That he was not interested in making an investigation in Charleston to determine whether coal ever sold for $6.50 per ton; that he did not go to any dealers to ascertain the

price, as he was not interested in it; that the Columbia Supply Company furnishes the gas to the rolling mills at Middletown; that it is a subsidiary of the Columbia Gas & Electric Company; that the price of coal at Middletown, Ohio, was slightly in excess of what they are paying at Cincinnati; as compared to $3.83 in Cincinnati there was [fol. 525] an additional cost when using Kentucky or West Virginia coal of about 50 cents in freight; of course, their coals came from this section, so that the coals shipped from West Virginia to Middletown cost approximately $4; Middletown is located between Dayton and Cincinnati; that he could not find in Charleston at the time he made the investigation referred to any distribution of coal that would give any real idea of cost; that it is not fair to take the cost of one ton either for or against the proposition, and that there is practically no coal used here for domestic purposes; that the cost of coal for industrial purposes in Charleston would have to bear the freight rate, which he thinks is 85 cents, added to which would be the cost of the coal at the mine, and added to this the cost of distribution; that if coal was selling at $2 at the mine for lump, which would be the domestic coal, and this 83 cents freight rate, you would have $2.83 in carload lots, and then you would have to find out what the cost of distribution was, but for the sake of argument, taking no cost of distribution and taking the cost of coal at the mines in the mines as 17 cents, and taking the freight as being 80 cents, and delivering the coal at the house at $1 a ton, the cost of gas for the same [fol. 526] purpose at the present rate would be two mills as against a little over five mills for the same service rendered by coal, or less than half the cost of coal if it only cost a dollar a ton.

That he did study, of course, the question of deterioration of property in the house by the use of coal, the cost of moving ashes, inasmuch as most of the coal which is used has a theoretical ash content of eight or nine per cent, but actually will run up to 15 or 20 or 30 per cent in domestic consumption, which means that 30 per cent of the coal you take in has to be hauled away either by the individual or the community. Those two elements, plus a third one, the injury to property from smoke, against which laws have been passed, have to be considered. It is a known fact that the real mar-

ket for anthracite coal has been made as the result of statutes preventing the emission of smoke from chimneys in eastern communities. The cost of smoke in Cincinnati has been so great as to cause the civic associations to make estimate of losses there and to do everything possible to prevent it, and they now have smoke inspectors; that the painting of houses in a community would also be an element; and being asked whether laundry and soap, an additional [fol. 527] amount of soap being bought to keep your hands clean by reason of smoke, would not be an element, he replied that all of these things had to be taken into consideration.

Redirect examination:

That he is acquainted with the per capita consumption of natural gas in the cities where it is used as a fuel—that is, the consumption per consumer; that in the United Fuel Gas Company's service in the year 1924 the average consumption per domestic consumer was 184,000 cubic feet; that in the city of Columbus in 1923 it was 112,000 cubic feet; that the temperatures in Columbus in the winter time, which is the only temperature that matters, is approximately 4 degrees colder than Charleston; that the average consumption per consumer in Cincinnati was 78,000 cubic feet in the year 1923, or considerably less than half what it was in Charleston, and that there is very little difference in the temperatures between Cincinnati and Charleston; that in Dayton the consumption per capita is only 70,000 cubic feet. As the rate went up in these cities the consumption went down. The average annual bill remains about the same; there is very little difference. There will be a sudden rise in the bill when the rate goes up, and then the [fol. 528] adjustment in the use of gas takes place and the bills come down as the adjustment is made; that has been the experience in Cincinnati. In the city of Dayton it is the historical experience; and in Columbus as the rate goes up the gross bill does not increase to any appreciable extent.

M. S. Fouts testified in substance and effect as follows:

That he lives at Charleston, West Virginia, and is secretary and assistant treasurer of United Fuel Gas Company; that as of December 31, 1924, that company had 35,704

domestic consumers in West Virginia; that the average bill for each consumer in West Virginia for the year 1924 was $39.49; that as of December 31, 1923, it had 33,908 domestic consumers in West Virginia, and that the average bill for each consumer was for that year $38.47.

Cross-examination:

That as of December 31, 1923, there were 84 industrial consumers in West Virginia, and on December 31, 1924, 56; that the consumption of gas for the 84 industrial consumers in 1923 was 4,866,454 thousand cubic feet, and for 1924 the industrial consumers used 2,849,224 thousand cubic feet.

[fol. 529] STIPULATION RE CERTAIN FACTS

It was stipulated by the parties that for the year 1923 the United Fuel Gas Company paid dividends of 5 per cent on its capital stock of $30,000,000.00, and that for the year 1924 it paid dividends of 4.8½ per cent on its capital stock of $30,000,000,000.00.

DILLON C. JAY testified in open court in substance and effect as follows:

That he lives at Charleston, West Virginia, and is acting land agent for the United Fuel Gas Company and has been connected with that company for the last twelve years in its land and leasing departments; that he has made up a statement from the records of the company showing the gas rights and the title by which that company holds them, the number of acres, the county in which that acreage is, and the obligation under which the company is in regard to each of those tracts, and files the said statement as part of his evidence, marked Exhibit 3 J. C. No. 1 (and the same is attached hereto as part hereof).

That the United Fuel Gas Company owns the gas in fee as shown by the first page of the exhibit under the head-[fol. 530] ings "Unoperated Fee Gas Acreage held by United Fuel Gas Company" and "Operated Fee Gas Acre-

age held by United Fuel Gas Company;" that the statements under these headings show the number of acres in each county held in fee by the United Fuel Company, both operated and unoperated, and show a grand total of 41,555.07 acres owned in this way; that means that the company owns the gas in the land—the oil and gas.

The second page shows unoperated acreage held under leases at a rental of 25 cents per acre per annum, and it is subdivided into the number of leases, the aggregate number of acres held under the different royalties, running from 50 cents to $3 per acre. The 25 cents an acre rental is the amount paid to the land owner for the leases up to the time it is operated. Twenty-five dollars to $300 a year rental means the royalty which is paid to the land owner for each and every well after the same is drilled; that when a well is drilled producing gas, or from which gas is marketed, ordinarily the land rental stops and the rental paid on the well takes its place; that the rental is paid only on producing wells and not on dry holes, should such be drilled.

[fol. 531] That on the next page is "Unoperated Acreage held under Leases at Delay Rentals, Rentals of 50 cents an Acre," under which is included various leases in each county and at various gas well rentals. This is subject to the same explanation as the other page, except that the delay rental is 50 cents instead of 25. And the statement goes on to the end at the various increases in delay rentals and acreage rentals until you get over to the page headed, "Unoperated Acreage held under Lease at Delay Rental of $100 per Tract." In that case the delay rental, instead of being by the acre, is for the whole tract, the amount paid for delay in drilling being a gross sum instead of by the acre. All of these figures for delay rentals are annual payments. Then there are certain pages upon which are indicated that certain amounts are paid per acre for delay rentals, being 50 cents per acre, $2 per acre, $5 per acre, and a certain number of cents or fractional parts of cents per thousand cubic feet as well royalties. Some of the leases provide for annual rental at a specified sum per acre, the royalty being based on the measurement of the gas. The only difference in these cases is that after a well is drilled the amount paid by the company is based on a certain number of cents [fol. 532] for the actual number of thousand cubic feet pro-

duced, instead of being based upon the well as the unit of payment.

There are then two pages upon which appears "Acreage Held in Lease without Rental on account of Oil Production" and the other "Operated Acreage held under lease on account of Gas Production." In the first instance the leases are for both oil and gas production, and there having been oil production on the leases, the payment of the stipulated oil royalty stops the delay rental; that sometimes oil and gas are both produced from the same well and from different sands in the same well, but when the lease is for gas and oil the production of either stops the dead rental. The other sheet indicates that the acreages are held without delay rental because of production of gas, and it also indicates the amount per well that the company is paying.

That by far the larger amount of acreage is that upon which a dollar per acre is paid for delay rental and $300 for a gas well; that in the years past this was the customary rate upon which oil and gas lands were leased, and that accounts for much the larger amount being of that character; that he is familiar with the forms of leases used by [fol. 533] the company and by oil and gas lessors generally and has been for the last few years, and that he produces and files with his evidence as a part thereof such forms of leases as are in use by the United Fuel Gas Company, Hope Natural Gas Company, South Penn Oil Company, Fisher Oil Company, Carter Oil Company, the forms in general being the same. Said representative forms of leases are filed as part of the witness's evidence, marked Exhibit 3 J. C. No. 2 (and are attached hereto as a part hereof.)

Cross-examination:

That none of the land indicated on the first page of Exhibit 3 J. C. No. 1 is used for compressor stations, rights of way or other purposes; that it is all gas acreage; that he has not included any land owned in fee for rights of way, and nothing for land owned for compressor station lots; that it is owned in fee; part of it is operated and part of it is not operated; that the forms which he files are forms of leases used by the United Fuel Gas Company upon which its leases have been taken in the main during the past ten

or twelve years; that it holds under leases 819,861 acres; that he does not know just what quantity has leases similar to the forms presented, that in the main, however, the [fol. 534] leases don't vary very much, even on large tracts of land, sometimes special clauses being put in where the land is being operated for coal or where it is coal land, making provisions for going through coal seams; and some of them have minimum royalty clauses; some of them have different forfeiture clauses, and some have the right to surrender portions of the premises under lease, and in some of the larger tracts, as well as in some of the smaller, the royalty is based on so much per thousand cubic feet instead of by the well; that it has been found necessary in some cases recently to take leases of this kind rather than by a well rental, but not in very many cases; that sometimes there are some interlineations made, but as a rule the leases are taken substantially upon the form indicated; that the form is the form the company submits to the land owner, and he is generally willing to sign the contract; and in the great bulk of the acreage the parties come together on the terms indicated in the leases.

Redirect examination:

That the statement introduced by him in evidence shows that the company owns 41,555.07 acres of gas lands in fee, operated and unoperated, on which no royalty is paid to anyone; that it has 83,632 acres under lease which is operated, and 566,221 acres under lease which is unoperated, [fol. 535] a total of 691,409.49 acres; that the reason the figures given by him are less than those formerly indicated in the record as 819,000 acres is because his figures do not include 128,451.85 acres held in Kentucky, but only the acreage held in West Virginia, the total of such acreage being 691,000; that the practice of the company in regard to renewing or attempting to renew leases for gas territory before the expiration of the term provided in them is to undertake to secure such renewal or renewals from twelve to eighteen months before their expiration and that the reason that this is done is to enable the company, in case it is not able to secure the renewal of the lease on terms it is willing to accept, to drill a well or wells on the property and in that way continue to hold the territory.

Cross-examination:

That none of the printed forms of leases which he filed with his testimony contain a covenant on the part of the lessee to drill any certain number of wells; that the United Fuel Gas Company has very few such leases; that he doubts whether there are more than one half dozen such leases on the company's books; that it is not true that nearly all of the leases for large boundaries contain such a covenant, nor is it true that nearly all of the leases for large bound- [fol. 536] aries contain a forfeiture clause; that he does not believe any of them do; that he does not know whether he has read the contract for the lease of the Courtney tract of land in Lincoln and Boone Counties, containing upwards of 10,000 acres, taken some ten or twelve years ago; that he has read the contract for the lease of the Campbell Coal Company tract some five or six miles above Charleston, containing about 5,000 acres; that they contain clauses providing for the drilling of a certain number of wells on the acreage after operations start; that it is true that where the company leases large boundaries of land the terms are matters of negotiation between the parties and the contracts contain many other clauses not contained in the printed forms.

TESTIMONY FOR THE DEFENDANTS

JOHN JIRGAL testified in substance and effect as follows:

That he is connected with the firm of Arthur Anderson & Company, certified public accountants, which has offices in Chicago, New York, Kansas City, Milwaukee and Washington, and in the New York Office has a department which confines itself strictly to public utility work, and also a [fol. 537] similar department in the Chicago office; that he was connected with the Railroad Commission of Wisconsin from 1910 to 1916 in the accounting and statistical department; in the latter year he became associated with Hagenah & Erickson, public utility engineers and rate analysts, and continued with them until 1920, except for the period of the war—that is, the period when he was in active service; that he became associated with Arthur Anderson & Company in

1920 and has been there ever since and is a member of that firm, which does a large number of public utility investigations and audits for the purpose of selling public utility properties, for the financing of the same, for internal administrative purposes, and for these rate adjustments; that the firm audits annually some of the largest public utilities in the United States, such as the Northern States Power Company, which operates in Minnesota, Wisconsin, North and South Dakota and Iowa, the Consumers Power Company, which operates extensively throughout the lower peninsula of Michigan, the Louisville Gas & Electric Company, which operates around Louisville, in Kentucky, and the Republic Railway & Light, which operates in Pennsylvania and Ohio, at Youngstown, New Castle, and that region; the Cuban Telephone Company, which operates [fol. 538] throughout the Island of Cuba, and a number of other large companies; that he has been connected personally with such cases as the New York Steam case, Chicago Telephone Case, the Chicago Gas case, the Dayton Power & Light, the Richmond Water & Gas, the Birmingham Telephone, Louisville Telephone, Lincoln Street Railway, Indianapolis Water case, East Chicago Water, Peoria Gas, and these West Virginia natural gas cases and the natural gas case in Topeka, Kansas, the West Virginia Telephone cases, Huntington Water case, and others; that his firm does the initial investigating work for some of the largest banking institutions in the country, going into the properties usually before financing takes place, and also goes into investigations of properties for purchasers, in the case of some of the larger organizations.

That he has examined the books of the United Fuel Gas Company and has made studies and analyses of accounts of that company; that he was in the United Fuel Gas Company investigation in 1919 and the present investigation; that the present investigation covered a period of three or four months; that he has made a study of the exhibits filed by Mr. Uebelacker and Mr. Hightower with their evidence in this case; that he has made a study covering the investment [fol. 539] as reflected in the property of the United Fuel Gas Company, and that the same is signed by "Arthur Anderson & Company, certified public accountants," which is the firm of which he is a member, and which report was

made by him, and which report he files with his evidence as a part thereof, marked Jiral Exhibit No. 1 (which is attached hereto as part hereof).

In explanation of said exhibit the witness stated:

The amount of the original costs, subject to some qualifications which will be explained later on, is $26,288,911.83. I wish to explain at the outset that the investigations which we have made heretofore covered only the United Fuel Gas Company, and in the last instance the Virginian Gasoline & Oil Company. This time we have treated the property on a consolidated basis, and have included with the United Fuel Gas Company its gas subsidiaries, the Cabin Creek Gas Company and the Warfield Natural Gas Company. I want to make that explanation, so that any differences between the figures for prior years and those contained in this report, that will be the reason for them—the reason will be obvious.

The report that we made in this connection in other words, this Exhibit 1, was for the purpose of ascertaining [fol. 540] the original cost of the present property in use. It was also for the purpose of determining the net earnings available for the natural gas business, and the distribution of both of these factors between the various divisions of the company's business.

On the books of the United Fuel Gas Company the property account is shown to amount to $74,069,215.83; that is for the United Fuel Gas Company, the Cabin Creek Gas Company, the Warfield Natural Gas Company and the Virginian Gasoline & Oil Company. For the purpose of convenience, we might term the last three companies subsidiaries, although in the strict sense the Virginian Gasoline & Oil Company is an affiliated company and not a subsidiary.

The total investment of $74,000,000.00 is divided between the different branches of the United Fuel Gas Company and subsidiaries' business as follows:

The natural gas is charged with	$59,636,100 00
The gasoline, including tank car	1,750,302 00
The oil	12,449,910 00
The carbon black	113,868 00
Then there is an item of incomplete construction included for	119,034 00

Now, the book value of the natural gas property is made [fol. 541] up as follows:

There is $27,511,797.00 which can be designated, for the purpose of this report, as the book value of the original properties acquired, plus the additions and extensions since the acquisition, stated at cost reflected by the books; value added through appraisal is the other item and amounts to $32,124,303.00.

Now, there is a slight difference between that figure and the $31,000,000.00 that has been introduced in the previous hearing, due to the fact that the Cabin Creek Company is included.

That this appraisal of the acreage was put on the books of the company in 1918; that he thinks the appraisal was made later than that, and that the books were held open and the appraisal put on as of that date; that he was instructed to find as closely as he could the original cost of this property, and for that reason excluded any appreciation; that is, he has excluded the $32,000,000.00 to arrive at the original cost per books; he has also from the per books figures excluded three other items and added back one; he has taken from the acreage account the proportion which he feels should be assigned to the oil department, and also has taken from that what is termed by the com- [fol. 542] pany "financing improvements and betterments," and also an account called "depreciation and adjustment," and has added back the item of incomplete construction; that the item of depreciation and adjustment is excluded for the reason that the property is no longer in service; $413,182.00 is cost of dry holes, $283,759.00 surrendered acreage, and abandoned wells amounts to $29,776.00, and some miscellaneous items amounting to $29,882.00, and for the reason that none of this property is now in use it is excluded. The item of financing and improvements is made up of discount on bonds, $191,225.00, certificates for fees in connection with bonds, $1,947.00; the listing of the bonds on the exchange, $610.00, and then there are some unaccounted for items amounting to some two thousand and odd dollars. These items are excluded for the reason that the usual rule in a case of discount and expense is to treat this as a deferred charge and to write the same off over the life of the securi-

ties. That is the accounting treatment provided in the uniform classification of accounts of every public utility commission so far as he knows. These items are merely interest paid in advance, and for that reason should be treated in that manner. After deducting these items and [fol. 543] adding the incomplete construction the original cost is $26,288,911.00, subject to the remarks made on page 4 of the report, as follows:

"The adjustment under the caption of Financing Improvements and Betterments is for the purpose of eliminating from the property accounts the element of bond discount and expense. This discount and expense was incurred for the most part in connection with the marketing of the company's first mortgage bonds in 1916 and 1917. Items of this character are properly classified as a deferred charge. They are, in effect, interest paid in advance and as such should be amortized over the life of the securities to which they relate. Public service commissions generally have held that this is the proper treatment for security discount and expense items.

Prior to 1916 in cases where the company retired property or abandoned acreage it charged the book cost thereof either to operating expenses or profit and loss. In the years 1916 and 1917 and to a minor extent in 1918, it transferred such book cost from the physical property accounts to an account called Depreciation and Adjustment. The amounts in the latter account were still retained as part of the natural gas property cost. Since this property is no longer in service its cost cannot be included in the [fol. 544] original cost of the existing property. If a depreciation reserve had been provided in the earlier years the amounts in the Depreciation and Adjustment account would have been chargeable thereagainst. In the absence of a depreciation provision the book cost of the retired or abandoned property should have been charged to profit and loss. In any event this item is not properly included in the cost of the physical property.

In reports heretofore made we have always included Incomplete Construction as a part of the property cost. Such incomplete construction is often incomplete from an accounting standpoint only. The property is sometimes

actually in use and where this is not the case the investment has at any rate already been made. In the present case no interest is charged to construction so that no carrying cost is added to the direct cost.

The cost of the gas property after adjustment, $26,288,911.83, as shown above, does not represent the actual cash cost of the property either to the present owners or to the present owners and their predecessors in interest.

At the time the present company, United Fuel Gas Company, Inc., and subsidiaries, was organized in 1909 it ac- [fol. 545] quired property, represented principally by acreage, from the United Fuel Gas Company (old company) the United States Natural Gas Company and the Hope Natural Gas Company. On the books of the United Fuel Gas Company, Inc. (the new company) the property acquired was taken up partly on an appraisal basis and partly on the basis of the book values of one of the predecessor companies. The consideration as far as reflected by the books of the United Fuel Gas Company, Inc., is concerned, was the issuance to third parties of certain stock and debenture bonds, such third parties in turn making the actual settlement in the case of the Hope Natural Gas Company and the United States Natural Gas Company acquisitions. The actual cash cost of the properties to the present owners cannot be accurately ascertained unless access can be had to the books of the companies from whom the properties were acquired. The method used by the company in finally recording such acquisitions on its books had the effect of clearing all of the unaccounted for physical property through the acreage account, so that subject to the correctness of the book cost of the acreage, the other physical items are recorded on the books as nearly as may be at the original cost thereof."

[fol. 546] In other words, the pipe lines and the wells and the distribution systems, etc., are stated at the original cost, as nearly as they may be determined. I say that because of the fact that the original property taken over of this nature was very small and was appraised in the pre-war period, when the difference between original cost and cost of reproduction was very small, and if there is any discrepancy there it would be very minor, considering the additions that have been made to the property since.

That the item that appears on the books of the company as the cost of the leaseholds does not reflect the original cost of these leaseholds, but a higher one; that it would be rather difficult to determine the original cost; that certain deductions are made in a report hereafter filed in regard to that; that he has made an investigation of the operating expenses of the company and has made certain adjustments in regard thereto; that the net earnings of the gas department of the company, according to the books, are $4,307,719.00 for the year 1923; that to this amount he has added adjustments amounting to $2,196,550.00, making the net earnings as adjusted $6,504,000.00; that the principal adjustment is for the purpose of increasing the revenue which [fol. 547] would accrue to the company if the affiliated companies, that is, the Columbia Gas & Electric Company and the Ohio Fuel Supply Company, paid rates comparable to those paid by the West Virginia consumers; that he used this basis because it is the West Virginia consumers' rates which are in dispute. The basis for this statement was the determination of the distribution costs of the company, which we found to be 3.71 cents per thousand cubic feet, which cost is reflected from the accounts of the company, except that additions have to be made for depreciation allowance, allocation of taxes, general expenses, and return on investment, and some consideration must be given to the fact that the rate base heretofore used in an adjudication of rates has been in excess of the book value of the property. Such items as working capital, going concern value, and the accrued depreciation in the property, and appreciation due to changes in price, have been considered; so for the purpose of making this adjustment we used 4 1/2 cents per thousand cubic feet as distribution cost, we deducted that 4 1/2 cents from the average rate paid by the West Virginia cities, which is 20.27 cents, which resulted in an amount of 15.77 cents per thousand cubic feet, which is used in the adjustment and applied to the consumption used [fol. 548] by those two companies. This figure of 15.77 cents was used as representing the value of the gas at the city limits. That in determining this he went further and found that if he used Mr. Uebelacker's reproduction cost the figure would be somewhat over 5 cents; that in addition to this adjustment there are the rentals which flow with the unoperated acreage, which is chargeable to the oil depart-

ment, and taxes apportioned between the departments, which was necessary at this time owing to the extent that a proportion of the leasehold book value has been assigned to the oil department, the Virginian Gasoline & Oil Company paying its own taxes. It was not necessary to apportion the general expenses at this time because the company has followed the principle of assigning the joint general expenses to the Virginian Company and the United Fuel Company on a basis that fairly reflects, as far as could be ascertained, the proportion that ought to be borne by each.

There are some minor adjustments for profit and loss items, which are really delayed items; they come in a year subsequent to the year to which they apply, and the company handles them through profit and loss. They are operating expenses just the same as if they went through the [fol. 549] accounts regularly, because the company suffers a loss to that extent.

There is made an allocation of 50 per cent. of the gasoline net earnings, the basis of which is set forth in the report. The company's basis for depreciation has been accepted, as well as the amount.

There is also deducted Federal income taxes in excess of that shown on the company's books, for the reason that were the adjustments made reflected on the books there would be an additional income tax. The company has on its books for the year 1923 an accrual of $113,000, and this we have increased to $312,000, in round numbers, for the reasons given.

These adjustments result in an increase of the net earnings of the company from $4,307,719.72 to $6,505,270. These adjustments reflect what the net earnings would have been had the transactions taken place upon the theories presented. The adjustment so far as the parent companies are concerned does not affect the allocation for the State of West Virginia. In other words, this adjustment would not have to be made at all if it were not for the fact that the net earnings applicable to the combined property have been [fol. 550] considered in the total. In other words, it wouldn't make any difference whether you made that adjustment or not if the records showed in the distribution to the West Virginia consumers it was taken into account.

That he distributed the investment and net earnings to

the various divisions of the company; that he added to the book cost of the property as used an allowance for working capital and going concern value; that the engineers are in agreement as to $990,000 being the correct allowance for working capital, and he accepted that figure; that as to the item of going concern value he accepted the estimate of Mr. Hagenah, the engineer expert for the defendants, of $3,000,000.00, and added these items to the book cost of the property as used by him, which gives a total investment in the natural gas service of $30,278,912.00.

The adjusted revenues and the operating expense, for the purpose of this report, have been distributed between the various sections of the company's business on the basis heretofore applied by the Public Service Commission and approved by them, with the exception that in the case of transmission property cost, the system demand mileage has been used. I mean that the contribution which each division of the company makes to the system's maximum demand has been multipled by the distance the city or [fol. 551] section of business is from the center of the producing field. I might add that the transmission investment and expenses are a comparatively small part of the—or I should say are not the largest part of the system, so that the use of this method or any method would probably not show greatly different results, if applied to cost figures. I haven't checked Mr. Uebelacker's figures to find out what the difference would be, but I wouldn't say it would be large, especially as between West Virginia and the rest of the service. As a matter of fact, if the demand principle the company has contended for is right, this demand mileage ought to allocate to West Virginia less, it would seem to me, than the sales basis, and I might say if the sales mileage heretofore used by the commission was used, it would give more favorable results from protestants' viewpoint for West Virginia and the cities than would the demand mileage basis.

That this results in an allocation to West Virginia of $8,278,267.00; that the net earnings available for depletion, depreciation and return for West Virginia are $1,567,573.00; that he has divided this among the various cities served in West Virginia, including Charleston, Huntington, Williamson and the other West Virginia districts,

[fol. 552] and that upon the basis of his division it shows applicable for depreciation, depletion and return on the investment in the city of Charleston 21.62 per cent., for the city of Huntington 14.07 per cent., for the city of Williamson 17.17 per cent., and for the other West Virginia districts 20.31 per cent.; that on the basis of his calculations the average return for the entire state of West Virginia is 18.93 per cent. available for depletion, depreciation and return.

In regard to the subject of depreciation and depletion, page 14 of the exhibit shows what depreciation the company sets aside on a cost basis, which excludes the depletion on the value added through the appraisal of properties, and we use the rates the company uses, but have made the exclusions I have referred to for depreciation and adjustments, bond discount and expenses, and oil acreage; the amount allowed for the purpose of depreciation and depletion, as shown by the report, for the gas department, is $1,251,538.00, and for the entire property $1,685,252.00, which is a rate of 4.8 per cent. on the total value of the property. The tables accompanying the report are self-explanatory. The statement on page 11 of the report shows the distribution to the various classes of the com- [fol. 553] pany's business and the amount of each of these items; it also shows the net earnings available for depletion, depreciation and return in the case of each class of business, and the percentage heretofore indicated.

Page 12 shows the application of the adjustments which were made to the book revenues and expenses, and the revenues, expenses and net earnings as adjusted. Page 13 shows the cost of the property and plant per books, the adjustments that have been made, and the cost of property and plant as adjusted, also the make-up of the $26,288,911 as between the various accounts; that there is a difference of about six million dollars between his figures and those of Mr. Uebelacker for the adjusted value of the property.

That he has made a study of the amount of money which the company has in net earnings available for return after depletion, depreciation and amortization, and files the same as part of his evidence, marked Jirgal Exhibit No. 2, and the same is attached hereto as part hereof; that in this table the same investment and the same allocation of in-

vestment to the various classes of business are shown as were used in Jirgal Exhibit No. 1, and the same net earnings are shown; that there is deducted from it the allow-
[fol. 554] ance made for depreciation and depletion on the company's rates, with the adjustments already explained; that is, the $1,251,539.00 has been deducted from the net earnings available for depreciation, depletion and return, and the net earnings available for return alone have been thus arrived at; that is shown in the first section of the table.

The second section relates to depreciation and depletion computed on the basis of exhibit filed later in this connection, and the amount of depreciation and depletion on this basis is ascertained as $1,399,227.00. The depreciation and depletion appears in red for the reason that it is a deduction. This amount of $1,399,227.00 is approximately $150,000.00 in excess of that on the company's basis, or about 12 per cent., I should say. That is, on the basis now referred to by the witness, or the second basis, the deduction for depreciation and depletion is that amount more than the amount shown on the books of the company; and after deducting the item of depreciation and depletion the net earnings available for return for each division of the company's property are shown in column 4 of the table. This amount on the company's basis of setting aside depreciation and
[fol. 555] depletion on the book cost of the property is for the several divisions as follows: for the city of Charleston, $636,870.00; for the city of Huntington, $241,559.00; for the city of Williamson, $40,690; other West Virginia cities, $306,584.00, or a total of $1,225,703.00, or an average return on the investment for the entire state of 14.81 per cent.; that the table shows a return of 17.49 per cent. on the investment allocated to Charleston and 9.92 per cent. on the investment allocated to Huntington; that this difference results from the competitor factor in the city of Huntington, where the Huntington Development & Gas Company is in business; that is, the total sales in Huntington are distributed between a certain proportion of duplicate investment; that he considers this as the explanation of it; that on the basis of computing depreciation and depletion hereinafter referred to, the net earnings after depreciation and depletion available for return for the state of West

Virginia are $1,185,384.00, and the percentage on the investment is 14.32 per cent.

That he has made a study and analysis of the books of company with reference to the book value of the acreage of the United Fuel Gas Company, and files the same as part of his evidence, marked Jirgal Exhibit No. 3 (which is at-
[fol. 556] tached hereto and made part hereof); that in this he has made a study of the history of the company relating to the origin and present book value of the leases; that in order to understand the acreage account, for the purpose of presenting the original cost of the acreage, it was necessary to go into the history of the company to find out just how the book value was arrived at. The acceptance of the figures of the book cost without going into the history of the make-up of the acreage account would not give all the information necessary to ascertain the approximate original cost thereof, because of the factors hereafter explained. The original United Fuel Gas Company was organized on March 2, 1903, and up to the year 1909 had issued only $250,000.00 of capital stock. In the latter year it was reorganized by the formation of the United Fuel Gas Company, Incorporated, which is the present company, and the authorized capital stock was increased from $250,000.00 to $10,000,000.00. At the time of the reorganization, the present company apparently took over the book assets of the old company and assumed its liabilities.

I give here on page 1 the opening entry on the books of the United Fuel Gas Company, which shows that the prop-
[fol. 557] erty account had in it $980,694.00, and also capital stock outstanding of $250,000, and it was indebted to the Ohio Fuel Supply Company $778,121.00.

No investigation has been made of the books of this company to determine the book value of $980,000, but the records of the new company state that 277,997 acres of leasehold rights and a few wells were acquired from the old company. The account with the Ohio Fuel Supply Company was liquidated by the issuance of $750,000.00 in capital stock, thus bringing the issued stock at that time to $1,000,000.00.

The new company, shortly after its organization, acquired the property of the United States Natural Gas Company and certain of its subsidiaries and also acquired con-

siderable acreage from the Hope Natural Gas Company. These acquisitions, together with the property taken over from the old United Fuel Gas Company, form the nucleus of the present system.

In the case of the United States Natural Gas Company purchase, the contract of purchase was originally made on July 15th, 1909, by Mr. M. C. Treat and Mr. George W. Crawford. They later assigned their rights to the Ohio Fuel Supply Company. That assignment was provided [fol. 558] for in the contract.

That the minutes of the board of directors approving this contract showed that both Mr. Treat and Mr. Crawford were directors of the United Fuel Gas Company at that time.

The Ohio Fuel Supply Company in turn directed that the conveyance be made to the United Fuel Gas Company. The original contract with Messrs. Treat and Crawford provided for a cash consideration of $2,081,250.00 and the assumption by the purchasers of all of the liabilities of the United States Natural Gas Company and those of the subsidiaries covered by the purchase. The company received for the above consideration all of the physical property and rights of the United States Natural Gas Company and these particular subsidiaries, together with the other assets in the form of receivables, materials, etc., owned by them.

The purchase was recorded on the books of the United Fuel Gas Company on the basis of the book value, as we understand it, of the property account on the books of the United States Natural Gas Company, and the recording of the value on the books of the United Fuel Gas Company in this manner resulted in the difference between the assets [fol. 559] and liabilities being $4,073,898.00, which was considerably in excess of the cash consideration in the original contract. The difference between the amount at which the net assets were taken on the books and the cash consideration paid by Messrs. Treat and Crawford was $1,992,648.00.

The United States Natural Gas Company's property consisted of 143,742.48 acres of leasehold and fee rights and also a natural gas transmission and distribution system.

On June 30, 1910, the Hope Natural Gas Company deeded to the United Fuel Gas Company its rights in 614,000 acres

of gas and oil land and some minor property. The other property was very insignificant. The accounting in connection with the property was, as in the case of the United States Natural Gas Company, for some time prior to the actual date of the deeds. I might add, in the case of the United States Natural Gas Company, while the property was taken in September, the accounting was actually made as of May 31, 1909. In other words, the United Fuel Gas Company got the earnings and assumed the expenses, and they got the assets and assumed the liabilities between [fol. 560] May 31, 1909, and the actual date of the exercising of their option to purchase. The acquisition from the Hope Natural Gas Company was taken up on the books at $3,200,741.00. The actual cash consideration, if any, is not shown by the records. When I say "actual cash consideration, if any," I mean whether there was any actual cash passed in this transaction is not apparent from the records. I don't want it to be inferred that this property was bought for nothing. I just make that explanation.

Both the Hope Natural Gas Company and the Ohio Fuel Supply Company had advanced considerable sums to the United Fuel Gas Company for development and other purposes, and in July, 1910, all of these advances and also the property purchase accounts were settled by the issuance directly or to third parties of $5,000,000.00 in capital stock and $3,392,072.90 in debenture bonds. The transaction was recorded on the books as given at the top of page 4.

It will be noted that the United States Natural Gas Company and the Hope Natural Gas Company purchases were included in this settlement at the amounts already referred to. In other words, in the case of the United States Natural Gas Company the settlement was made on the basis of [fol. 561] $4,073,898.00; in the case of the Hope Natural Gas Company acquisition the settlement was made on the basis of $3,200,741.00.

The distribution of the securities, as shown on the middle of page 4, shows that the Ohio Fuel Supply Company got $1,587,854.83 par value of the debentures and $1,000,000 par value of the stock; the Hope Natural Gas Company got $569,726.03 of the debentures and no stock; Alfred C. Bedford or to whom he may direct secured $1,028,392.00 of the debentures and $4,000,000 of par value of stock; Standard

Oil Company of New York got $206,100.00 of the debentures.

It will be noticed from what I have said already that the United States Natural Gas Company acquisition and the Hope Natural Gas Company acquisition were recorded on the books at values which apparently had no reference to any cash consideration involved. An appraisal was apparently made of the physical property, — that is, the transmission and distribution lines, wells, etc. — which property was acquired aside from the acreage, and the balance of the book value placed on the total property was considered as applying to such acreage. This acreage was first given a value of $5.00 per acre at about the time of acquisition, [fol. 562] but this left $2,000,000.00 in the property account as unassignable to any tangible property. In 1911 the officers of the company placed a value on each leasehold or other property rights ranging from $1.00 to $50.00 per acre. The valuation per acre for the more important districts is shown on page 14, if you will refer to that at this point. If you look at the total column you find for the operated acreage in the Big Sandy District the average valuation is $44.00 per acre; in the Curtis District, Roane County, the valuation is $50.00 per acre; in the Geary District, Roane County, the average is $49.67 per acre; for the Smithfield District it was $45.70 per acre; for the Spencer District $50.00 per acre; for the Walton District it was $39.77 per acre; for all the other districts a valuation of $1.00 per acre.

In the case of unoperated acreage, the valuations are somewhat lower, but for all of the territory in the principal producing fields the valuations are at least in excess of $10.00, and the average is considerably above that. Six hundred and twenty five thousand acres in the unoperated fields was classified as having a value of $1.00 per acre; in all 1,056,000 acres were valued in this manner.

[fol. 563] The appraisal thus made showed a valuation of $7,233,538.00, which is just $300,000.00 greater than the value of the acreage today as carried on the books of the company on a cost basis.

That he made a very extensive analysis of the acreage account, which involved a great amount of work, as there are thousands upon thousands of these leases, but the detail

work was done, which involved an examination of each lease and each voucher. As I will explain later on, certain of the vouchers were missing, not through any fault of the company's accounting system, but they were in some other department or something like that and couldn't be immediately located. We reviewed 90 per cent. of the leases purchased since the date of the purchase of the original property. I want to say right here that the company's records are very complete; they are well kept, and you can get as near as possible perfect information from them, —I think as clear a set of records as I have ever seen.

This table shows how the present book value of the acreage is arrived at; that is the table on page 6. I want to state at the outset there is in there, because of the consolidation of the companies, 10,483.6 acres and $238,107.92 [fol. 564] of the oil acreage which is applicable to the operated portion of the oil property of the Virginian Gasoline & Oil Company. In other words, for the purpose of this case, that would have to be excluded from this figure of $6,971,509.00 at the outset. This has nothing to do with this adjustment we made for unoperated oil acreage. It relates to what the Virginian Company shows on its books as operated oil acreage.

This statement shows in the first line the original purchase from the United States Natural Gas Company, the Hope Natural Gas Company, and the United Fuel Gas Companies, and at the bottom of the statement I have a summary which brings out the $7,233,538.00 valuation to which I have already referred.

Now, properties were subsequently acquired from other parties which had a value of approximately $501,000.00 and a total of approximately 69,000 acres. In order to get that figure you have to add the operated and the unoperated acreage.

Now, the next item is very important as bearing upon the present inquiry. This is the miscellaneous leasehold acquisitions which have been made by the company since the original purchase of the properties from the United [fol. 565] States Natural Gas Company and the Hope Natural Gas Company. I want to exclude, for the purpose of this discussion, the items under the operated acreage caption, because they are small, and confine my testimony

to the unoperated territory or field. This shows there was acquired 1909 to 1923 1,028,000 acres of unoperated territory, for which a cost is shown on the books as $1,031,000 or approximately $1.00 per acre. During this period in the unoperated section there was abandoned approximately 1,300,000 acres, for which a valuation of approximately $1,600,000 was recorded upon the books, and it gives a per acre value of slightly in excess of $1.00. In other words, most of the acreage abandoned appears to have been abandoned in the territory which is not now producing territory, during the time that I have mentioned from 1909 to 1923, inclusive. There was transferred from unoperated to operated acreage 55,674 acres, at a valuation of $1,389,000.00. That $1,389,000.00 was obtained by taking from the books, in the case of leases that were transferred over to the operated acreage, that valuation that was placed on those particular leases in the beginning, and as I show later it also included the cost for making additional bonus pay-
[fol. 566] ment at the time the renewal was made.

Now, going next to the acquisition of these miscellaneous acquisitions, the total of which is 1,028,132.15 acres, and having a book cost of $1,031,000.00 or approximately $1.00 per acre, in the middle of page 7 it shows that this is made up of new leases, renewal payments, fee property, and this unaccounted for item to which I have already referred. That is in the case of the unoperated acreage and, as you will see, the total is 1,028,132.15 acres, at a book cost of $1,031,000.00. I want to call attention to the fact that the majority of these leases, as far as we could ascertain, are made for a ten year period. That means these leases have been renewed once since the original acquisition and, in a number of cases, twice. I will bring that out further later on. Of the $1,031,000 application to new leases, as such, there are 932,000 acres of these new leases in this period. During this period there was $340,000 paid for renewals of the acres, so it will be seen that the renewals greatly affect the average price of $1.00 to which I have already referred. There was $231,000 paid for fee property, and $141,000 for unaccounted for, on account of not
[fol. 567] being able to locate these vouchers in time to investigate them; but in the case of the unlocated vouchers you will note the valuation is not much different than in

the case of the located ones, keeping in mind always there may be renewals in there as well as new acquisitions. In the case of new acres acquired, that is 932,000 acres, which we could localize, the cost was $319,000 or an average of 34 cents per acre.

We made a complete analysis of these acquisitions by years and districts and the following summary which appears on page 8 is the result of that analysis:

In West Virginia from 1910 to 1914 there were acquired 307,000 acres, at an average cost of 27 cents per acre; from 1915 to 1920 there were acquired 320,000 acres, at an average cost of 50 cents per acre; from 1921 to 1923 there was acquired 62,000 acres, at an average cost of 83 cents per acre. The total for West Virginia during the whole period was 689,000 acres, at an average cost of 43 cents per acre. I might state here that the increase in the period of 1921 to 1923 over the period from 1915 to 1920 is more apparent than real. During that period the company acquired 70 acres in the Big Sandy District, for which they had to pay [fol. 568] $25,000. As I understand the situation, the company thought that they had the leasehold rights on this 70 acre tract, while it was later discovered they only had a one-half interest, and somebody purchased the other one-half interest and on account of the territory being necessary to the company's business they had to pay this price. That was extraordinary. I wouldn't say that was the only one; there might have been some isolated cases but I think not of this magnitude; there couldn't have been, because the whole amount involved in new acquisitions is only approximately $350,000.

In unproven territory our study of these leaseholds, which I have stated involved 90 per cent. of the new acquisitions, show that the bonus payment bear a definite relation to the matter of delay rentals, to which I shall refer later on. In unproven territory where the annual rental charges are $1.00 per acre, the bonus payment amounts to one quarterly rental or 25 cents per acre. In proven territory the annual rental charges range from $150.00 to $500.00 per well site, and one annual rental is paid as a bonus, as a rule. It is the practice of the company to allot 100 acres to a well site, although this basis varies considerably with the number of acres in the lease. In other words,

[fol. 569] you purchase a lease of sixty acres and drill a well on it and that goes into the operated property at sixty acres; if they purchase 500 acres, my understanding is that they allot 100 acres for the first well, etc. In Kentucky the price paid for territory is about 50 cents per acre per year in rentals with a bonus of 10 cents per acre.

That out of 735,000 acres of unoperated territory there is 105 acres in Kentucky; that for a large amount of the unoperated acreage renewals are made for the nominal sum of $1 per acre.

Now, for the purpose of ascertaining the effect of these renewals and for the purpose of comparing the renewal cost in the case of the particular acreage, which was taken over in the original acquisitions, and the valuation placed upon the same per acre, we made a study of all of the leases in the important districts, which were renewed in the period from 1922 to 1924, and we ascertained in the case of these renewals the original valuation which was placed upon this particular acreage by the company's officers in the beginning. The average cost per acre of the renewal in the period from 1910 to 1921, and the average cost of the renewal in the present period,—that is, the period from 1922 [fol. 570] to 1924. We took only the more important districts, like the Big Sandy and the Curtis, Geary, Smithfield, Spencer and Walton.

That these districts, particularly Big Sandy and Geary, are in the operated territory, and certain portions of the other districts mentioned are apparently in the operated territory; they are in the important producing territory. This statement shows, for instance, in the case of Big Sandy District, that the original valuation placed upon this particular acreage was $29.67, on the average. In 1910 to 1921 this acreage was renewed at 98 cents per acre, and in the period from 1922 to 1924 it was renewed at $4.50 per acre. We have taken the same leases, but, for instance, you will notice a little difference in the acreage in the period from 1910 to 1921. That means there were a few leases that did not expire in that period,—a very few you can see, only 43 acres, but in the next period you will find the total acreage renewed was 5,460.67 acres. That the renewals made in the period 1922 to 1924 in the Big Sandy District reflected a price of $4.50 per acre. In the Curtis District the orig

inal valuation made to the acreage was $31.54; the renewals between 1910 and 1921 show an average of $1.29 per acre; [fol. 571] renewals between 1910 and 1924 show an average of $1.31 per acre, and you will notice in this case that the renewals in 1922 and 1924 correspond with it or cover the same number of acres as covered in the original valuation.

That the later pages, 28 to 36, show all the details; the other districts show about the same variations for the total leases which were renewed in the particular districts. The average valuation given in the beginning was $38.37; the renewals from 1910 to 1921 were made at an average cost of 95 cents per acre, and the renewals between 1922 and 1924 were made at an average of $4 per acre; that the valuations shown, ranging from $52.36 to $29.67 per acre, were the valuations originally made, and are reflected in the investment of approximately $6,900,000.00 shown on the books, and also the renewal of these leases; that is, when a lease came due in accordance with the contract, say in 1913, 1914 and 1915, the company did not relieve its account of the original valuation placed upon these leases, but it added thereto the renewal cost, and if the leases are renewed a second or a third time it would carry that additional cost; that the leases that were renewed were in most cases [fol. 572] renewed about one year before they expired, that is, they start to get renewals of the leases about a year before the expiration; that in the case of physical properties the practice of the company is that when an item is taken out it is charged off of the books, but in the case of these leases the total appraisal cost is included, as well as the total cost of renewal.

The next table shows that 83 per cent of the business in the operated acreage was in the particular districts investigated, and that of a total of $6,399,390.00 of unoperated acreage, book cost, $5,310,930.00 is in the districts investigated bearing a book value of $24.07 per acre. The valuation of $6,399,000.00 is the original valuation and not the present valuation.

That in regard to the conclusions set out on pages 10 and 11, the indications are that the original cost of this acreage to the original company and predecessors combined is apparently considerably less than the book value at the pres-

ent time; in other words, if there is a finding to be made on the original cost, it would have to give weight to this element; that the report made by Mr. Mease, the statistician of the commission, in 1917, gives a different interpretation, and justifies the conclusion which he has drawn refer- [fol. 573] ring to the United Fuel Gas Company property. That report says, "The total cost of this property to the United States Natural Gas Company did not exceed $2,200,000.00, or considerably less than the amount of the bonds assumed by the United Fuel Gas Company. The stock of the United States Natural Gas Company was practically all bonus stock, and the cash consideration mentioned above probably was all profit to the stockholders."

I think it is necessary to give some consideration to the matter of delay rentals, especially in view of the statement contained in the recent decision of the Supreme Court of Appeals in the last case. I think it is essential to understand in the beginning that what is on the books as representing book value of leaseholds is supposed to represent the first payment on the leasehold right. Now then, if a well is not drilled at once, as usually the case, a delay rental is paid. If the well is drilled at once a royalty is paid. Now, both the rental and royalty are included in the operating expenses of the company and have been since the beginning. The carrying charge in rentals is therefore a part of the cost on which rates have been determined up to this time. Any expense attached to securing these lease- [fol. 574] holds by the land department is also included in operating expenses. Since 1909 there have been included $668,000 of leasehold expense and $6,458,000 of rentals on unoperated acreage, making a total of $7,126,000. The first item of $668,000 is expense of getting the leases, and it is treated on the books as an operating expense, and the same is true of the rental. There has been included only that portion of the rentals and leasehold expenses that he finds assignable to the gas end of the business, and has indicated that a part should have gone over to the oil business, which had not been included, so that from 1910 to 1923 there is an operating charge of $7,126,454.00 as rentals and leasehold expense; that if this amount was included as capital it would increase the amount upon which the return should be computed, but that it would decrease the expenses of the

company, so that there would be a larger amount left for return.

That he has made a study and analysis of the accounts of the company that relate to the demand for the gas of the company during the year 1923, allocated to the several classes of consumers, and files the same as part of his evidence, marked Jirgal Exhibit No. 4 (which is attached [fol. 575] hereto as part hereof); that this table shows the basis used for allocating the transmission investment and expenses; the percentages are shown on page 2; it shows the contribution of each division of the company's business to the maximum demand of the system, and also the maximum daily demand regardless of the system peak; that is on page 3. On page 5 is shown the demand for each day of January 1923, and in that month the seventeenth appears to have been the coldest day and is also the day on which the maximum demand for the system occurred; that from the report it would appear that the sixteenth was as cold as the seventeenth; that the seventeenth would not appear to be as cold as the sixteenth; that he has made a study of the temperatures and conditions for each of the cold months in a survey of the principal divisions of the company's business; for instance, for the Louisville Gas & Electric Company, at Louisville, for the Pittsburgh & West Virginia and Hope Natural Gas companies at Pittsburgh, the Ohio Fuel Supply Company at some points in Ohio, and the Columbia Gas & Electric Company at Cincinnati; that there is a certain diversity between those points; that it seems that it is colder west of Charleston than it is in West Virginia; that the average [fol. 576] gas delivered to the Columbia Gas & Electric Company in the month of January 1923 was 38 million cubic feet per day, and that on the coldest day it was 45 million cubic feet; that for the city of Charleston the average for the month was 23,500,000 cubic feet per day, and for the peak day it was 28,400,000; that the table is worked out for the months of January, February and December 1923, and the coldest day in each month is indicated in red.

That he has taken from the records of the company detailed statements which support the figures he has introduced in evidence and compiled the same into a report, which he files as part of his evidence as Jirgal Exhibit No. 5

(which is attached hereto and made part hereof); that this report simply shows that all the figures in the preceding statements conform to what is reflected by the books, so that anyone can check the results without having to consult the working papers.

That he has also prepared a report on the adjusted gas investment and operating profit from 1909 to December 31, 1923, from an analysis and study of the company's books, and files the same as part of his evidence, marked Jirgal Exhibit No. 6 (which is attached hereto as part hereof).

[fol. 577] Page 1 shows property account as it has been built up on the book cost basis from July 1, 1909, to December 31, 1923. You will note in the first column that the amount which I testified to was the book cost as per the books of the company, $27,511,797.04. That is the same amount which I show in Exhibit No. 1 as the book cost distributed between years. To that book cost I have made by years the same adjustments to which I testified from Exhibit No. 1, with the exception of adjustments on labor costs of drilling new wells. That does not affect the present cost of the company's property for the reason that the company had those adjustments on its own books, and I have just related it to the proper years. In other words, it gives the company credit for making the adjustment for the year in which it was done. It shows the adjusted book value of the company to be $26,288,911.83, as I testified this morning.

On page 2 I show the adjustments to the net earnings as per the books, all of which adjustments with the exception of the cost of drilling new wells and the abandoned leases charged to expense, are as explained this morning. Now, on the cost of drilling new wells, I have explained that the company made that themselves, and I have made [fol. 578] it in the proper years. So far as the abandoned leases are concerned, the company charged abandoned leases to expenses until 1914. In 1916 and 1917 it charged these abandoned leases to an account called Depreciation Adjustment. From 1917 to date, it has charged these abandoned leases to Depreciation Reserve, or to Profit and Loss. The amount charged to Depreciation Reserve is that amount for which provision had been made in advance, and for the amount that the provision had not been made in advance, the charge is made to Profit and Loss. I will show how

that is taken care of in a statement later on. This statement shows that the net earnings as adjusted for the period from July 1909 to December 1923 were $53,928,858.94. That is before depletion, depreciation and Federal income tax. This relates to nothing but gas earnings, no oil, only the proportion of gasoline that has heretofore been included, no carbon black.

On Statement No. 3 I show the book cost as adjusted and as reflected in Exhibit No. 1. In the next column I show the average investment for the year. The third column, 4 per cent. for working capital, which is approximately the figure which has been included by the engineers—slightly in [fol. 579] excess of that. The fourth column is the average investment before allowing for accrued depreciation and depletion. Now, on the basis of the amount which I included in Exhibit No. 2 this morning, a depletion and depreciation reserve would be accumulated over this entire period, to the extent of $13,948,899.00. In other words, if the rate of depreciation and depletion which I introduced in Exhibit No. 2 this morning had been applied on the books of the company since the beginning they would have accumulated in the reserve, subject to deduction for retirements, a sum equal to $13,948,899.00. Now, the records of the company show that they have abandoned acreage, charged off property that is no longer in service, and in general made retirements of property during this period equal to $2,950,222.00, which would mean that if the reserve had been accumulated at the rate indicated by Exhibit No. 2 the balance in the depreciation and depletion reserve on a cost basis, as of December 31st, 1923, would have amounted to $10,988,677.02. In other words, approximately $11,000,000.00. Now, if the average balance is deducted from the average investment, as shown in column 1, the depreciated book cost of the property as of December 31st, 1923, would be $16,468,544.00. I want to point out that the company [fol. 580] did have on its books December 31st, 1923, as applicable to the gas department, a reserve equivalent to $10,325,240.00, so they have got on their books—the company has on its books an amount which about approximates the amount I arrived at by this method, and that has been set up by them on a basis of the cost of the property. It does not include any depreciation of the appreciation which re-

sulted by putting the appraisal on the books in 1918. Now, the statement on page 4 shows the adjusted net earnings before depreciation, depletion and Federal income tax, as already shown on page 2. I notice there is a difference there in the thousand column, but that can be reconciled. The depreciation and depletion which would be taken off would be $13,948,899.00, already testified to as regards to page 3. The Federal income tax during this period, and by that I mean the normal Federal income tax, which is the amount held to be included in operating expenses, $1,229,656.00—that is, exclusive of the excess profits tax. Before 1917, if there were any Federal income tax accounts, they were included in the regular tax accounts which are already a part of the operating expense. The total deductions for depreciation, depletion and Federal income taxes amounted to $15,178,555.00, leaving earnings available for return on in- [fol. 581] vestment of $37,900,303.00. Now, in connection with the commissioner's question a short time ago, included in the operating expense is all the rentals applicable to the gas department, rentals on unoperated acreage.

That there has been a separation for depreciation and depletion among the various items; the company keeps a separate record of depreciation and depletion applicable to gas and oil, tank car, and also separates between depreciation and depletion based on the cost and based on appreciation due to appraisal.

The depletion, we tried to find out from the company the basis on which it was arrived at and we were directed to see Mr. Davis, and Mr. Davis apparently had a method which he felt he had evolved himself, and we didn't get the exact nature of it, but the amount we had in there is in excess of Mr. Davis' figures on the cost statement. That is true in 1923; I haven't gone back into the years, but it is true in 1923. And on page 5 the question is answered, I think, as to whether the company has earned a return of any given percentage on its investment. In this statement, we have divided it into two sections. First, the section which uses the average investment depreciated as a basis for the [fol. 582] calculation, and the second where no accrued depreciation and depletion is deducted from the book value at all. It is shown that the commission may be informed as to what the application of the accrued depreciation and deple-

tion would mean to the book cost. In other words, there you have a property that is subject to exhaustion because the life is determined by the natural gas fields, and in order to show the extent to which the application of depreciation and depletion costs would affect the books we have prepared this table. This table shows that on a basis of 8 per cent. return, the company during its history has earned $20,000,000.00 in excess of that return in case the depreciated book cost is used as a basis, and $15,400,000.00 where the undepreciated average investment is used as a basis. That is over the 8 per cent. I have here a calculation showing the actual percentage. It shows that on the depreciated basis, that is, the basis referred to in the first four columns of the exhibit, the company has earned 17.2 per cent. on its investment, and on the undepreciated basis they have earned 13.5 per cent. These are the average for the entire history of the company.

That he did not make any effort to set up a rate base giving working capital and going concern value, but on [fol. 583] the other hand, he did not adjust for the fact that the original cost was probably less than the book value of the acreage, and did not allow anything for accrued depreciation; that as a matter of fact, up to 1917, the appraisal value of the property, exclusive of acreage, would not, in his opinion, be very much different from the original cost as reflected by the books; that as to the acreage he would not be qualified to testify what the value would be in each year, but does know that the book value is considerably in excess of the original cost; that the value of acreage shown by him is the original appraisal, with the amounts which were expended added each year to the same; that there is not such a large factor on that account when it is considered that the original book cost was $7,000,000.00 and the renewals $340,000.00; the excess comes through the original valuation; that the excess earned over a 10 per cent. return and over a 12 per cent. return has also been worked out; that the excess over a 10 per cent. return on a basis of depreciated investment, the company has earned an excess of $15,900,000.00, and $11,500,000.00 in excess of a 12 per cent. return; that in the case of undepreciated investment the company has earned in excess of 10 per cent. [fol. 584] $9,800,000.00, and in excess of 12 per cent. $4,200,000.00.

Page No. 6 is a comparison of balance sheets as of December 31st, 1910, right after the original properties were acquired, and December 31st, 1923. I have a statement here which I will introduce showing each expense, which makes it more readable than the information which this comparative balance sheet shows. Now, in the subsequent tables we have shown for every year since 1909 the earnings of the company by departments, the surplus account on page 8, the detailed operating expenses on page 12, the detailed property accounts by departments on page 13, the details of the gas department property, page 14, the cubic feet of gas sold every year of the period. The latter statements are introduced for the purpose of supporting the conclusions reached in the first five or six tables.

That the tables show that for the year 1923 the United Fuel Gas Company sold to the Central Kentucky Natural Gas Company 1,535,000 thousand cubic feet of gas, to the Louisville Gas & Electric Company for the same year 1,027,000 thousand cubic feet, to the Portsmouth Gas Company for the same year 1,277,000 thousand cubic feet, and to the Montgomery Gas Company for the same year 129,000 [fol. 585] thousand cubic feet; that the amount of gas sold in West Virginia during the year 1923 was 11,675,000 thousand cubic feet.

That he has prepared a statement showing the source and application of funds of United Fuel Gas Company from January 1st, 1911, to December 31st, 1923, and files the same as part of his testimony, marked Jirgal Exhibit No. 7 (which is attached hereto as part hereof).

This table is designed to show where the money has been gotten since 1911 and up to December 31st, 1923. I have tried to make this statement more simple than what would be shown by the comparison of balance sheets which I referred to a short while ago. It will be noted that the increase in the funded debt during that period is $3,821,000.00. From that must be deducted the discount and expense in connection with the sale of bonds and any premium that is paid in retiring old issues—that is, like issues that are taken over by the United States Natural Gas Company, and calling of 7½ per cent. bonds, etc. It shows that from this source there was secured net only $3,318,000.00. There was secured through earnings during this period $50,211,-

780.00. Now, these moneys were disposed of as follows: [fol. 586] $21,000,000.00 was spent for gross additions to the property since that time; $1,400,000.00 was spent for investments, and by the way, these investments shown are in the company's own bonds for the sinking fund, a considerable portion of them. I think most of that item is that, in fact; making $22,565,000.00 which is spent for capital purposes. $28,024,000.00 has been paid out in dividends, and the working capital, that is the net working capital, has been increased by $3,254,601.00. The significance of this source and application fund statement is to show the tendency of the company during all this period to finance itself out of its surplus and reserve funds. I can probably give you approximately how this $22,000,000.00 of property was financed. About $3,000,000.00 came from bond money; the stockholders got a $4,000,000.00 stock dividend; and there is a balance of $13,000,000.00 in the depreciation reserve. I think there is about $2,000,000.00 in surplus, so if you add that together it shows how the company has financed all these additions and betterments since 1910. In other words, there has been $3,000,000.00 in new money put in in all that time.

That he has made a study of the gasoline earnings of the [fol. 587] company, and files the same as part of his testimony, marked Jirgal Exhibit No. 8 (which is attached hereto as part hereof). The statement shows the net earnings of gasoline, after deducting for depreciation, Federal income tax, and what the 50 per cent. would represent in dollars and in percentage in investment in gasoline equipment. The last figures in the column, 80.40, represent the percentage that 50 per cent. of the gasoline net earnings would represent on gasoline investment—that is, that 50 per cent. of the net earnings would produce a return of 80.4 per cent, exclusive of tank car earnings; that the figures used are within $1000.00 of Mr. Uebelacker's figures.

That in his opinion it would seem that you would have to make a separate allowance for depreciation and depletion and one for return, because there are a considerable number of elements entering into the cost of reproduction of the property or the original cost which are not depletable or depreciable; for instance, going concern value would not be, and working capital would not be; your rights

in the fee land would not be; salvage in property would not be; so it would seem that the thing to do would be to relate the elements for depreciation and depletion to the depre- [fol. 588] ciable property and to compute the return on the fair value, whatever it might be. In this case the figures for depreciation and depletion amount to 5.3 per cent. of the total property, and on that basis on the book cost it would show a reserve of $11,000,000.00, which would represent 42 per cent. of investment before being depleted and depreciated; that would be true on the reproduction cost, the same on original cost, and would follow the same principle; that in his opinion, regardless of the value set for the acreage of gas in the ground, the depletion of the same should be on the basis of the original cost, and should have no reference to the value for proposed return.

That he has prepared a statement showing what the original cost should be, and used that as a basis for depreciation and depletion, rather than the cost of reproduction.

In my opinion the allowance for depletion and depreciation should be based on the cost of the property rather than the cost of reproduction, for the following reasons: First, the purpose of a depletion and depreciation reserve is to keep the investment intact and not return to the investor the cost of reproduction at any given moment. There must be some common basis for computing profit in all in- [fol. 589] dustries, including public utilities, otherwise all figures on cost production would be meaningless. The original cost or equivalent has been the basis adopted for depletion and depreciation in accounting for profit; similarly, when the United Fuel Gas Company determines its profit available for dividends, at present as well as in the past, it considers depreciation and depletion at cost, and whatever remains is deemed applicable to such dividends. I might say the company at the present time has an appreciation on its books, which is the same except in the matter of degree as the appreciation which it is claiming in its cost of reproduction study by Mr. Uebelacker. The company, on its books, at the present time, has an appraised value for its acreage, per its books, of $42,000,000.00, and yet the depletion of that $42,000,000.00 has absolutely no effect on the amount which it computes as profit before it declares its dividends. The depletion of this amount is

charged to an account which was set up on the books at the same time as appreciation, due to the added value which came through that appraisal. Now, if the company is not going to have its profit determined on the basis of the depreciation and depletion that it claims here, then it [fol. 590] means in effect that whatever excess the company gets in the way of depreciation and depletion on the cost of reproduction basis over what it would get on the original cost basis is nothing more than additional return to it. In other words, if you fix the rates of the United Fuel Gas Company on the basis of depleting its property and depreciating it on the cost of reproduction basis, and the company follows the method of accounting which it now has in vogue, that difference to which I have referred will be accounted for by them as profit and will be available for interest and dividend payments. It will be nothing more than additional return, over and above what you figure is a fair return upon its investment.

Now, Mr. Uebelacker, for instance, finds in his rate approximately 13 to 14 cents as the amount that is applicable to depreciation and depletion on a cost of reproduction basis, and if the cost records show that only 3 or 4 cents is applicable for this purpose, you have 10 cents in the rate which can find its way in the books in no other way than in the profit and loss account as dividends. In other words, on the basis of 46 billion cubic feet of sales, that would mean an additional profit to the United Fuel Gas Company of [fol. 591] $4,600,000.00; in the case of West Virginia it will mean a profit of over one million dollars. Now, the West Virginia classification of accounts provides that natural gas companies shall provide for depreciation and depletion on the basis of the original money cost. In substantiation of that, I will read from the classification. In the case of depreciation the classification says:

"In determining its rate of depreciation the utility shall, in the case of those structures and items of equipment that can be satisfactorily individualized, provide for each such structure and item of equipment an amount which will through regular accumulation insure at the time such structure or item of equipment goes out of service a reserve therefor equal to the original money cost thereof less salvage recovered thereon. In the case of those structures

and items of equipment that cannot be satisfactorily individualized the utility shall keep such structures and equipment in efficient operating condition through repairs and shall treat all renewals or replacements of parts thereof as repairs."

In the case of leaseholds it has a provision that is similar, and that by the way comes down to the value of the leaseholds, the matter under discussion. This is under the cap- [fol. 592] tion of "Amortization of Other Capital Reserve."

"Credit to this account and charge to '477,' Amortization of franchises, patent rights and licenses." That is the name of the account. "478. Amortization of natural gas rights and gas leases," which is the thing we are discussing, and "609. Amortization of interest in landed capital" "accounts those amounts which, through regular application, will provide at the expiration of the lives of the utility's limited franchises, patent rights and licenses, limited rights of way, and leaseholds, a reserve equal to their original money cost."

In the accounting practice of the company, and of all companies, the difference between what a thing cost when it was originally put in and what it cost to replace it is capitalized on the books, so that the company loses nothing if the original money cost is used as the basis for depletion and depreciation, and that is also provided for in the classification.

Now, the practice of applying depreciation and depletion on cost applies to the commercial field generally. Public utility mortgages are drawn up on that basis; for instance, [fol. 593] here is a typical extract from the many I know of. The company may withdraw bonds on the excess, if any, of any expenditures for renewals and replacements over the original cost or the fair value, as the case may be, of the property so renewed or replaced, and in the case of fair value in that instance, it is the fair value at the time when the property is placed in service, not the fair value when it is taken out. The same principle is true in every walk of life. If I borrowed from you a thousand dollars in 1910 and paid you back or had to pay you back, under the conditions of the loan, in 1920, I get a one hundred cent dollar in 1910 from you, and give you back probably a

fifty cent dollar in 1920, but that is due to the fact we have got an inflexible standard of value, and the debtor suffers in the one case and the creditor in another, but there is nothing in the commercial field, generally, which safeguards that; it applies to public utilities as well as anyone else, and the only way it can ever be stabilized is to change the standard of value. That is to say, you would have to put more gold in the dollar to represent the inflation or deflation due to price changes. Now, I want to say that the principle of applying depreciation and depletion on cost of reproduction is impracticable. You can't work it on your books and [fol. 594] you can't work it in justice to the consumers nor to the company, because in one case you would suffer and in another case they might suffer. In the first place, you would have to write the cost of reproduction on the books instead of the book value; first, you have to do that in order to work that on the books, and in the second place, you have to adjust the book cost each year because of the changes in prices, and you have to adjust your depreciation and depletion reserve as well; in the third place, the additions in each year would have to be more or less uniform, as far as the amount going into the capital account each year of the increasing price period and each year of the decreasing price period. In the fourth place, you can't account for profits the way you do now. If the commission determines rates which will cover depreciation and depletion on the cost of reproduction, you would have to retire your property on the cost of reproduction instead of the original cost as you are doing at present; in the fifth place, in order that no injustice should be done or involved by the application of this method, no profit could accrue to the company through the application of the cost of reproduction method for determin- [fol. 595] ing depreciation and depletion.

Now, that is the only way you can allow for depreciation and depletion on the cost of reproduction basis, and it would be an impracticable way of going at it. And that is the reason why the accounting rules are as they are, and, after all, the accounting are the rules that determine profit. The accountants have adopted the cost basis because it is inflexible, and determines your profit at all times on the same basis. Every time you get an increase in rates, on this principle, you don't change your books to the valuation pre-

scribed by the commission but you treat it on a cost basis and that is why you have got to use costs in determining depreciation and depletion. They have to do with what the cost of the property is, and have nothing to do with its value.

That he made no distinction in this method between depreciation and depletion, for the reason that your investment in the depleted property is a thing that has to be kept intact, and that has to be done just the same as any other physical item.

The reason for that is simply this, that the prices change, and if you were to follow price changes you would have to [fol. 596] change your books once a year, and that wouldn't be enough; you would have to change them every month, especially as to price changes as they have been since 1913. I don't want to be understood that original cost is the rate making basis by the commission; and the law is, I think—I can't say what the law is—but you have to consider all elements of value, one of which is the cost of reproduction, and the other is the original cost; another is cost of reproduction depreciated—the orginal cost depreciated; another is the outstanding securities and whatever are the relevant elements of value; I don't want to be understood to mean that the cost of reproduction is the sole evidence of value, nor necessarily the predominant one, but if you consider cost of reproduction in your rate making base and keep the investment intact by providing for depreciation and depletion at cost, you have by that measure done what the regulations that apply to that are attempting to do, and that is to keep the flow of capital in the industry at the price of capital at the time you are making the determination. In other words, if you have a fifty cent dollar in 1920, and you have got to put in your additions on the basis of that fifty cent dollar, and you have got to put in subsequent amounts for [fol. 597] additions in that price period, that factor would have to be recognized and it is recognized in the basis for your return, but so far as keeping your investment intact it doesn't, for this reason, you aren't paid back your fifty cent dollar on this accounting right now; you couldn't be because in the practicable application you could just as well say you ought to be returned your one hundred cent dollar in 1969; your property is still usable and will be used,

according to the estimates, until 1940; well, by 1940 you have returned to you through the application of the cost principle of depletion and depreciation the dollars you put in there and that has no reference at all to price changes.

That the foregoing observations do not apply to fixing the value for the purpose of rate of return, but simply to the fixing of value for the purpose of applying depletion and depreciation; that in this way you return to the public utility the money put in like you would to anyone else. The United Fuel Gas Company has a maturing bond issue in 1936. It is not going to pay to the people today that put their money in the United Fuel Gas Company any other dollar with any more purchasing power than that which exists in 1936. If they put in a fifty-cent dollar they get that fifty-cent dollar back.

[fol. 598] That he knows of no regulation or practice that recognizes any principle other than depleting on the money cost of the property; that for instance, in Mortgages, about which he spoke, the cost that determines what the bondable construction shall be would be the fair value to the public utility at the time it was acquired for the particular purpose; that is one reason why that fair value clause is always put in mortgages, because they want to prevent the transfer of the property in excess of the value at the particular time it is mortgaged, and they always say that the fair value is whichever is the less of the two.

That practically the only difference between the original cost or the historical cost found by Mr. Uebelacker and the amount shown by me this morning as the book cost is the matter of overheads. Now, the company since the beginning has not charged onto its books or has charged its books practically nothing for what is commonly termed overheads; that is to say, engineering, supervision, interest during construction, taxes and contingencies, etc. In order that this method of placing these overheads in the book cost may be fairly applied, you would have to credit the operating expenses for the year 1923 for an equivalent percentage [fol. 599] of overheads. Now in 1923 there were approximately $1,000,000.00 of additions, which would mean that on the basis of overheads, averaging between 21½ and 26 per cent., you would have to deduct from the operating expenses some $210,000.00 to $260,000.00. In other words, you can't

create book cost by merely making application of overhead principles; the money can come from only the company's treasury as a whole; it has to get it through the rates or through financing, and if you take it out of one pocket or put it in another pocket, likewise the property you have to take out of the other pocket, that represents operations.

I want to make this observation on the overheads. Mr. Uebelacker—or before I come to that—In the application of the overhead principle to book cost, you can not take as high overheads as you do in determining the cost of reproduction. In the first place no company charges on its books for taxes during construction; those are all absorbed in the operations; you have no such things as contingencies and omissions, because every dollar spent is accounted for; you have only one-half the interest application, because the property is in use only one-half the time, on the average. Now, those items are a considerable amount. In addition, [fol. 600] there is engineering and supervision, which is an allocated item. Usually the engineering department functions for both the operating department and for the construction department.

I want now to come to the most important item, and that is the cost of financing; in no company's books is that accounted for as construction costs; that is accounted for as nothing more than bond discount and expense, what is covered if the company puts in anything and what it puts in at the total discount. That is the difference between par value and the amount which it gets from its securities.

Now that is done in some cases, but it is never allowed, so far as I know, except in the initial stage of construction, in a rate proceeding. The usual rule is to amortize discount, both that part which represents the difference between par value and the amount paid by the investor, and the difference between the amount paid by the investor and that which the utility gets, and where it is not done the proper principle is not applied. In other words, this difference of four points, while it is a fair representation of what the difference is between what the bonds sell to the investor for and what the utility gets, it cannot be added to the his- [fol. 601] torical cost in a proper computation. In a similar historical study, the application of that would greatly reduce the overhead, so far as the original cost or historical cost is concerned, and would still bring in the application

that whatever was charged to construction on account of overheads would have to, on a percentage basis, be applied to additions which are made each year to the property.

That investigations he has made on large properties show that the overheads are considerably less than that indicated in Mr. Uebelacker's report, that is, on the original cost basis; that he is passing on the propriety of the overheads for the reproduction cost; that usually, when the overheads are fairly applied, the larger properties have larger overheads, that is, the percentage of overheads; at least, that is his experience.

That he has made an examination of the contracts and records of the company showing the price paid for gas purchased by the company in the field from other companies operating there; that the record is only carried up to July, 1924, and if any contracts have been made since it would not appear.

The first contract is the Falling Rock Cannell Coal Com- [fol. 662] pany contract. I think that has already been referred to here. That is at 8½ cents per thousand cubic feet. It has this rider in it, that if the United Fuel Gas Company obtains an increase in retail domestic rates in Charleston, above 25 cents, one-third of such increase per thousand cubic feet shall be paid to the coal company. In other words, it is a variable contract, depending on the rates in Charleston.

There is a contract with the Kanawha City Oil & Gas Company, which has the same rider, and which provides for a basic rate of 8 cents per thousand cubic feet. I might say in the case of the Kanawha City Oil & Gas Company contract, the gasoline goes to the United Fuel Gas Company.

The Markham Oil & Gas Company contract, dated June 4, 1924; the price is 6 cents per thousand cubic feet, as long as the price of 15 cents to the Louisville Gas & Electric Company obtains. That is in a field south of here apparently, and when the price goes over 15 cents they get two-thirds of the excess.

There is a contract with A. E. Taylor, five years from December 15th, 1923. The price is 8 cents per thousand cubic feet as a basic rate, and one-third of the increase of [fol. 663] domestic rate at Charleston. The gasoline not to be extracted.

There is a contract with Barnhart and Taylor, from November 15th, 1922. It runs until no longer gas is produced in paying quantities; the price is 7 cents per thousand, with an increase after two years in proportion to the increase in rates which the company receives for its gas.

There is the contract with E. G. Summers. The contract is for 8 cents, plus one-third of the increase; eight cents is the basic rate, plus one-third of the increase in domestic rates received by the United Fuel Gas Company; the gasoline not to be extracted by the seller in that case.

Here is a contract with the Poca Fork Oil Company, for five years from July 9th, 1924; the basic price is 8 cents, with the rider of one third, dependent upon the domestic rate; the gasoline is not to be extracted by the seller.

There is a contract with Jeff Miller et al., two years from June 27, 1923, at the price of 7 cents for the first year and 8 cents the second year, with no rider.

[fol. 604] There is a contract with the Morley Oil & Gas Company, for five years from November 14th, 1923; the basic rate is 8 cents per thousand; the gasoline not to be extracted by the seller, and one third of any increase in the domestic rate shall go to the owner of the lease.

That in making his study of historical cost Mr. Uebelacker used the cost approximately at the time the property was put in, and with reference to the acreage he took the book cost thereof; in other words, the same principle is not applied in the acreage as in the rest of his work; that in order to ascertain the historical cost of the acreage he would have to go back to when it was bought; that in determining whether or not the rates of depreciation and depletion are reasonable or otherwise there are several factors to consider. The company on its depreciation rate has apparently followed the straight line method, without any credit being given to the reserve for any interest accumulations. It has also made no specific allowance, so far as we could ascertain, for salvage value, and the cost of the removals of the salvage, in the case of this company, are included in operating expenses, and the company includes in its repair accounts what are classed as minor renewals, [fol. 605] all of which elements would serve to make the rate rather less than it would be if all of these elements weren't present, and, as I have already shown, the rate

which we have used is higher than that of the company, and gives a reserve as of December 31, 1923, of $11,000,000.00, which is approximately 42 per cent. of the book cost of the property as adjusted by us.

That his Exhibit No. 2 shows the net earnings available for return, both on the company's basis of depletion and depreciation, and also the allowance for depletion and depreciation as used in his exhibit; that this rate of depletion and depreciation is about 5.3 per cent., and would leave available on the later basis for return $5,105,000.00, which would be an 8 per cent return on $63,700,000.00; that he has taken the rate of depreciation as the company uses it in its books for that part of the property which is depreciable, and for the acreage added back all of the acreage acquired since the beginning and divided that by the amount of gas already taken out of the field, plus the estimate of Mr. Davis of what is in there, which is somewhat higher than the company uses, and used that instead. I just proceeded to this extent, that the depreciable property I have given the rate [fol. 606] which is applicable to less than a twenty-year life. For instance, the record isn't clear, so far as I can see, that the transmission system wouldn't last until the end of the field. If testimony should be introduced that it wouldn't last for eighteen years, why then the rates might have to be increased a little, for the replacements that would have to be made, but it is already shown in the record that on a basis of Mr. Davis's exhibit the rate of production or rate of sale, at the present time, can not be maintained any longer than eighteen years, so it doesn't look as if the major part of the transmission system would have to be replaced again before the exhaustion of the field. You may have a situation here that the Louisville Gas & Electric Company or the Central Kentucky Gas Company will not live out even eighteen years. I don't know what the premise of the company is on that, but in that case their investment will go out during that period, and if the existing transmission system cost is handled on the basis I have handled it you would have the dollars you have put into it when it does go out.

In regard to the method of calculating depletion and depreciation only upon actual cost, what he was trying to [fol. 607] bring out is that the purpose of depreciation and

depletion reserve is not for the purpose of giving a profit to the utility. If you provide for that piece of land or acreage at the rate which will eliminate $50,000.00 from your capital account at the end of the period, and $50,000.00 is found to be the fair cash original cost, the public doesn't suffer at all; but where the discussion comes in here that this company takes out of its property account, not the fair value which the commission found, but it takes out the book cost, and the difference between that rate or that amount of depletion, and the book cost and the value the commission allows, cannot be accounted for on the books at anything but a profit, and that is what has been done in this case. Assuming that you give a return of 16⅔ per cent, and assuming that 8 per cent is for return, you have 8⅔ per cent for depreciation and depletion. Now, what does the company do with that? It doesn't set that up on its books. It provides for depreciation and depletion regardless of allowances made by the commission, and in dollars and cents it means this, that in the first case, where the $30,000,000.00 valuation was set up, I think the books will show that the original cost of the physical property was given as $22,000,000.00 or $23,000,000.00. Now assum- [fol. 608] ing that there are two or three million dollars of non-depreciable property, like, for instance, the salvage in the system, the land, etc., and assuming further, that that will bring it down to $20,000,000.00, you have then given the utility 8⅔ per cent on $10,000,000.00 of non-depreciable property, and in accounting, the company gets not only the 8 per cent on $30,000,000.00, or $2,400,000.00, but it gets also 8⅔ per cent on $10,000,000.00 of undepreciable property, which will be $870,000.00 additional return. Now, if the company relieves its property account of a cost which corresponds to the basis on which depreciation and depletion is allowed then it gains no profit on its transaction, but if there is no gain to the company in that transaction, it doesn't seem to me there would be any advantage in raising rates just to give a depreciation and depletion allowance on an amount that doesn't represent investment in the property.

Commissioner Lewis: We are talking about depletion, not depreciation. Suppose "A" had gone into the utility business; he would have had a return at the time "B" did.

On your theory he would have had to return $5,000 undepreciated, but what about "A"?

[fol. 609] A. In both cases it ought to be the fair cash original cost at the time the property came into use.

Commissioner Lewis: The markets have been known to change very rapidly, speaking of fair cash value—All right, let it go.

The Witness: I wanted to make it clear that there should be no difference in treatment of depreciation and depletion.

That the reason for assigning one-half of the net profits from the gasoline business to the natural gas business is that, in the first place, there is a joint use of facilities. The gas is taken out of the ground from acreage that costs the company money; that gas is transmitted or gas is also taken out of the ground through wells that also call for an investment; the gas used is piped to the gasoline station; the acreage which is called upon to yield the gas costs the company considerable every year in rentals, for which the gas department is assessed; royalties are paid; it costs something to operate and build a transmission system, and that would seem to call for a division of those items between the two projects. The exact amount of the money is rather difficult to ascertain, but some division it would appear would have to be made. The cost account-[fol. 610] ing principle is not to consider one of two major products as a residual product, and the other as bearing all the cost. Some fair division has to be made between the two major products. Now then, looking at it from the purely economical side, you have this situation, that from 80 to 95 per cent. and possibly more of the gasoline in this country is manufactured from the crude oil refining process. That means that the crude oil refinery will, in a fair competitive market, determine the price because it will be that cost of production which will determine the price on which they can sell their gasoline at a profit. Now, that makes it a question of relative costs between the natural gas gasoline process or the natural gas extraction process and the crude oil process, and as long as there is a differential the natural gas producers will get the difference in profit. Now you are giving him a very large differential advantage, when you do not assign any costs at all for the raw product he uses in the manufacture, and that is natural gas. In

the crude oil process, as I understand it, there are a great many economies being perfected, and the cracking process I understand is being made more efficient. That means that the margin between the natural gas extraction process and [fol. 611] the crude oil process will decrease, if the natural gas process does not also become more efficient. Now the records of the company show, as I recall them, that each year there is a gain in the amount or yield per thousand feet, which goes through the gasoline extracting station. So it shows that that method is becoming more efficient, but it is a question as to which process is becoming relatively more efficient. Anyone going into the question of extraction from natural gas would therefore be willing to pay the natural gas producer that price which would allow him to meet the crude oil refiner's price. In other words, he would pay that much more for the natural gas rights or for the right to extract from natural gas the amount represented by the difference in his cost of production and the cost of production by the crude oil refiner. He wouldn't pay absolutely that differential, because he would be taking all the risks of the manufacture and he would be taking the risks over a series of years, and of course he would want some leeway because he wouldn't want to take all the risks and get nothing of the gain going into it; but that would be the principle that would determine how much he would pay for that right. Now, in the previous hearing I have attempted to show, from figures of the Federal Trade [fol. 612] Commission, that that right would be more valuable than the fifty per cent. Whether or not those figures would obtain at this time, I am not able to say, but the principle would govern just the same, and if there is no differential there would be nothing to split. I think the question is merely a question of determining a fair basis for paying for the right or privilege of extraction to the natural gas producer.

Cross-examination:

That ninety to ninety five per cent. of the gasoline consumed is from crude oil production; that he obtains these figures from the Geological Survey; the last time he looked it up it was 90 per cent., and his recollection is that recently the figure has gone up; that naturally this would be the

case, or tend to be the case, because the natural gas that is used in the extraction privilege cannot increase when you use the gas for public utility purposes, because the consumption determines the rate at which you are going to take the gas out of the wells, and that remains more or less stationary; that the basis for determining the value of the extraction privilege is the difference between the cost of production from natural gas and crude oil; that that can't be determined at any certain moment, but over a period [fol. 613] of years over which an investment will run; that assuming a situation such as exists in the last four or five years in the production of gasoline from natural gas, you might come to the conclusion that there would not be any differential, or you might assume that the former conditions would return; that he does not know whether there is any differential today, but from mechanical calculation he would say it is better today, but he would say that it is mechanically true that if the present trend continues that at the end of the next year there will be no differential at all, but that he could not say whether former conditions will return without investigation as to the whole situation; that he understands that the production of gasoline from crude oil has been wonderfully improved in the last four years; that he understands that the cracking process has resulted in getting more gasoline from the oil; that he does not know how much more; that he has not gone into the question to determine what is the cause of the low prices at the present time, and that before he could say whether or not extraction of gasoline from natural gas was a profitable business at this time he would have to give consideration to all of these elements; that assuming a price of 6½ [fol. 614] cents for gasoline to the producing company he would not think that it would be profitable to produce it, but that he would have to make some computations; that a profit of $1,000 a month on the operations of the Virginian Gasoline & Oil Company would not be considered profitable for that month, but you couldn't gauge profit that way, it should be taken over a series of years; that even if this was a pretty fair average over a period of four years he would not conclude that it was a reliable figure; that it is just like other industries that have gone through a period of deflation; that for instance the rubber industry has gone down

for several years, the sugar industry has gone down since 1920, but that does not mean that sugar refining is not going to be profitable; that is the thing you have got to look at; that it is true that the price of gasoline produced from natural gas is regulated by the price of gasoline produced from crude oil; that if an investigation showed that by the use of some process there had been a uniform tendency downward in the price of gasoline, and it was found upon examination that the production of gasoline from crude oil has been so increased that there is now being extracted from the oil production twice as much as there was four [fol. 615] years ago by an improvement in the process, that this would justify the conclusion that the production of gasoline from natural gas was not profitable at this time, but it would not mean that that conclusion would be good forever, or that the natural gas gasoline extraction process would have to be discarded; that if he was examining such a property with a view to advising a purchaser as to the purchase of it he would not give advice until he knew the cause of all the conditions showing the decrease in price, and that he would have to make up his mind whether the trend was definitely downward, and that there would not be any differential between the crude oil price and the natural gas price; that he would conclude that if twice the amount of gasoline was produced from the same quantity of crude oil because of improved processes, this would have something to do with the price of gasoline, and that the privilege of extracting gasoline from natural gas would be much less desirable, but that he thinks the fifty per cent. rule should apply as you go down; that he adopts the fifty per cent. rule because the testimony seems to support it; that any percentage rule would be arbitrary, and that he selects it because the commission has done so before, and because the Supreme Court has approved it, and that is the [fol. 616] only basis; that he worked it out independently before and came to a higher figure than fifty per cent.; that he can't say just what the percentage was; that he does not think it would be better to determine the value by a share of the gross receipts, because the value of the extraction privilege is determined by the net earnings that will come out of the product, which is the gasoline, and that is the best test of value; that is the test that is applied in the

commercial field generally; that it might be more stable if the privilege was paid for in a part of the product; that the price of gasoline has always been a very fluctuating thing, but not more than any other competitive product, he would say; that it has fluctuated more than the price of natural gas in Charleston, but natural gas is not a competitive product; that good administration would dictate that a stable basis be arrived at for the purpose of rate making, so long as it was fair; that the amount taken into consideration as belonging to the gas company from the manufacture of gasoline is a considerable item, amounting to some $000,000.00 for the year 1923, which is the amount taken into consideration by him, and if a rate is fixed upon that [fol. 617] basis it would be upon the assumption that $000,000.00 would be the amount made at one-half of the gasoline earnings each year; that in case the earnings from gasoline fell off there would be no way to make up the deficiency; that in case there was a substantial falling off in the earnings from gasoline the deficiency would have to be made up in the rate from the sale of gas; that by reference to Exhibit No. 8 it will be found that fifty per cent. of the gasoline net has only fluctuated in the last four years between $1,000,000.00 and $000,000.00, and if the rate is fixed in accordance with the company's theory, in every example there has always been an excess, and that excess can take care of any contingency of this kind on the showing that has been made; that he has not gone into the question of whether or not the company is getting more than it is entitled to earn; that he is not trying to determine that question, but is giving only the one factor, and that is the cost; that he has made no effort to find out what the present value of the property is, nor does he know what it is at the present time; that he does not think it is three times or ten times what it cost; that he does not fix the value at $16,000,000.00; that is just a calculation to show what the [fol. 618] depreciated investment would be if you applied the depreciation and depletion basis as one of the factors, but that is only one factor, and Mr. Uebelacker's reproduction cost is another evidence of value too; that he has furnished the original cost as one element of value; that he has attempted to show that the way the property was put on the books did not reflect what it actually cost in cash; that

this company put on its books the property bought from the United States Natural Gas Company at $2,000,000.00 more than it paid, and that he is showing this to indicate that the books do not reflect the original cost; that when $5,000,000.00 worth of securities were issued he does not believe it meant that they were worth five million dollars; that he does not believe the purchasers considered a certain measure of appreciation at that time and figured over a period of years they might be able to pay out on that basis, but they paid $2,000,000.00 more in par value of securities than the people before them paid for it; that he thinks when the directors of a corporation buy property the company ought to get the benefit of their good purchases; that the commission should take into consideration the fact that its [fol. 619] property was turned over to the company by two of its directors in determining whether the original cost is properly reflected by the books; that he attempts to show that the property that was turned over was acquired at less figures than the books show; that when the company bought the property for $5,000,000.00 that was $2,000,000.00 more than the people they bought it from paid for it; that in the case of the United State Natural Gas Company, from which part of the property was purchased, it was subject to the laws utilities are subject to now, and that the procedure of the commission in determining the original cost of the property is to determine the original cost not only to the immediate company but to the predecessor company; otherwise you have this situation, that every time it was to its advantage the company would reorganize and create a new company and transfer the properties at new values; that it is the value at the date of acquisition by a company engaged in the public utility business; that when you pay for property in securities it does not mean that the company valued it at the par value of the securities; that he is not going into the question of what the securities were worth, but simply stating the facts; that he is presenting his figures simply for the purpose of giving the commission [fol. 620] the original cost, to be given such weight as the commission may determine; that he thinks that it is entitled to some weight; that the cost of getting leases years ago is entitled to some weight as to the cost now, because

a lot of the leases that are on the company's books have been acquired recently, and to that extent it has an important bearing on value; in addition to that, there is some measure of appreciation taken up there in the beginning, and that when the company was organized, in 1909, and fixed the par value of its securities, it had in mind not only immediate profits but the ultimate profits; that no profits were received out of it for seven years; that there was originally put into the property the bond money by the assumption of debts of the old United States Natural Gas Company and some debts created by the old company; that there was risk in the investment originally, because when the re-financing took place in 1909 they were able to get the debentures readily, and that the stockholders bought them all and carried them themselves and took the risk, and that ought to be considered in the rate of return or the going concern value; that he fixes the going concern value at $3,000,000.00; that when he figures out the return the company should have he does not go into the [fol. 621] question of going concern value, but that there is included in the valuation $3,000,000.00 for going concern and $900,000.00 for working capital; that the $3,000,000.00 going concern value is a part of the thirty odd million dollars valuation for the entire property, and that this is true of the $900,000.00 working capital, and that all of his calculations as to rates of return are based on the assumption that the property is of the value indicated in his reports; that if the value is more than that then his rate of return is wrong; and also is based upon the allowance of 5.3 per cent for depletion, deterioration and amortization of property, and if this allowance is found to be inadequate his rate of return would be subject to that finding; that the books indicate that there is $11,000,000.00 depreciation reserve on the books; that the company has not, as a matter of fact, this money, but that it is invested in property, and that the investment was necessary to keep the plant up to 100 per cent; that he assumes that the plant that the company has today would deliver no more gas to its customers than the plant it had three years ago, and that in order to have a plant today that would deliver the same amount of gas that the plant did three years ago it would be necessary [fol. 622] to spend several million dollars for entirely new

units, including several new compressors; that he thinks it is true that the company sold more gas in 1916 than it has ever sold since; that he does not know whether the company will ever get back to the amount that it sold in that year or not; that he knows that it has not done so, and he knows that the company has spent in the intervening years large sums of money in additions to the plant; that it is likewise true that the company has spent in producing gas a great deal more money for each thousand cubic feet than it did a few years ago, but that that is the history of public utilities generally, so far as price changes affect the same; that he allowed a rate of .65 cents per thousand for depreciation on leaseholds; that he did not value the gas in the ground; that this is not based upon the value of the gas in the ground; that his theory of depletion and depreciation is not based upon the value of the property, but upon the cost of the property; that the amount of .65 cents per thousand is not representative of the value of the gas in the ground in any sense, but is for the purpose of keeping the investment, the book cost of the leaseholds, intact; that assuming that it would cost 5 cents to produce the gas and bring it to the top of the ground and deliver it [fol. 623] into the transmission line, the company would get that and in addition a return on the property, which would have to be considered; that there would have to be added to this the return on the value of the leaseholds; that he did not find the value of the leaseholds, but only found the book cost, and that this is about $7,000,000.00, roughly, and that the rate of return would be allowed on this $7,000,000.00 or on whatever value is fixed thereon; that assuming that the $7,000,000.00 was a fair value, that would amount to about 1.2 cents a thousand—a little over 1½ cents per thousand; that if his figures were adopted it would be true that the company would receive for the gas delivered in the transmission line 7.15 cents upon this basis, subject to an allowance for taxes the company paid, but that he has not allocated that to the investment; that he does not think that the people who are buying gas in the field at 18 cents are willing buyers; that he does not think the Hope Natural Gas Company is a willing buyer, but is buying it under presure; that it may be that they are willing to pay that amount for an additional amount of

gas to tide them over in cold weather; he knows of some companies that would be willing to pay any price so that in [fol. 624] the long run they would not get into trouble, for the privilege of having gas in cold weather; that he knows of an instance in Kansas several years back where they froze on several days and had extreme hardships on account of that, and that company, rather than have its customers suffer those hardships, would pay any price for gas; that that concerned the peak load condition, and it determined what the price is to be; the peak is one of the things you have to determine when you figure out what you are going to pay; that on the basis of the figures he has made the company has a net profit, after depreciation, depletion, and so forth, of $5,143,000.00; this is after deducting $1,399,000.00 for depreciation and depletion; that in arriving at this figure he has deducted $312,000.00 for income taxes; that this figure should not be $680,000.00, for the reason that for the purpose of income taxes deductions are allowed which are not considered in rate regulations; in the case of mines and natural resources the company is entitled to deduct the depletion on the added value which comes from the fact that the discovery value is greater than the cost; that for the purpose of income taxes returns are based on the actual present value of [fol. 625] the property; the deduction for depletion for income tax purposes is merely to determine the net taxable income which accrues; that it would be the same thing in a case of rate making if you depleted the value instead of depleting the cost, but the income tax bureau has determined that only as the basis for taxation; that the income taxes calculated by him would be on the basis of the taxable income about $2,500,000.00.

Redirect examination:

That he has made up a statement showing the gasoline gross earnings and net revenue for twelve months ending October 31, 1924, and offers the same in evidence as Jirgal Exhibit No. 9 (which is attached hereto and made a part hereof). The statement is prepared in the same way as the statement for the year ending December 31, 1923.

Said witness testified in open court on the hearing in substance and effect as follows:

That he has made some statements showing the distribution of net earnings of the company before and after considering delay rentals in the allocation of the company's property to the several cities and the state of West Vir- [fol. 626] ginia, and the results thereof; that the first table is based upon the principle of assigning to the present companies a charge which would be comparable with the rate which the cities in the state of West Virginia have to pay for gas; it is somewhat different from the commission's adjustment, due to the fact that the commission applied a different principle for the increase in the revenue to the parent companies; in other words, they applied a principle which had no reference to what the cities in West Virginia paid for the gas, or the consumers in West Virginia. In this table the allowances for depreciation and amortization have been figured on the original cost of the property; that there is at the bottom of the page a table to show what the net earnings for the entire property, and for the state of West Virginia, would be if capitalized on an 8 per cent. basis and a 9 per cent. basis and a ten per cent. basis; that the amount capitalized on an 8 per cent. basis, before you deduct the delay rentals on unoperated leaseholds, would be $63,813,000.00, and that after these are added back on an 8 per cent. basis it would be $71,177,000.00; that the West Virginia property, before these rentals are added back on an 8 per cent. return would be valued at $14,817,000.00, and after they are added back, $16,666,000. The [fol. 627] said statement is introduced with the evidence of the witness as Exhibit Jirgal 3 J. C. No. 1, and is attached hereto as part hereof.

That the earnings from what is called domestic and retail industrial service is something less than one-fifth of the total revenues of the company. The company does not charge to certain of its parent companies a rate which will sustain these figures; there is an adjustment of a million and a half dollars here to bring the rate of the parent companies up to what the consumers in West Virginia are paying; that the public service revenue in West Virginia is $1,333,329.00; that is the thing that goes up or goes down

according to the decision of the commission or of this court; that the matter that is affected by the decision of the commission or of the court in this case will be the returns from the public service business in West Virginia, which in this statement is represented by the $1,333,000.00.

That on the second statement are shown an adjustment of parent company revenue, the amount which the commission sets forth in its decision, and there is shown for depreciation and amortization the amount that the commission allowed. In other words, the second table shows [fol. 628] the amounts which the commission allowed instead of the amounts which the protestants claimed before the commission. It also shows that the net earnings are before adding back delay rentals and after adding back delay rentals. The statement is introduced with the evidence of the witness as Jirgal Exhibit 3 J. C. 2, and is attached hereto as part hereof.

That the earnings in the state of West Virginia upon the findings of the commission will support a valuation for the West Virginia property, on an 8 per cent. basis, of $13,110,000.00, and for the whole natural gas service of the company of $64,640,000.00, and after adding back delay rentals would sustain a valuation of $14,959,000.00 for West Virginia and of $72,013,000.00 for the whole company; that after adding back the delay rentals in West Virginia, on the basis of 9 per cent., it would sustain a valuation of $13,297,000.00; on the basis of 10 per cent. it would sustain a value of $11,967,000.00; and the corresponding figures for the whole company are $64,080,000.00 and $57,611,000.00 on the basis of 10 per cent. return.

That the general practice, and the practice that is subscribed to by the commissions, in regard to handling the [fol. 629] overhead cost of financing, is to treat what has been termed cost of financing as bond discount and expense and stock discount and expense; it never appears in the property accounts under any uniform classification, and it is considered a suspense item, to be written off over the life of the bonds. In other words, if this item pertains to bonds, the item is carried under suspense account and is written off periodically with the bond interest; that is, the item is deferred when it is incurred and written off over the life of the securities to which it pertains, to

the income account; it has nothing to do with capital; that the practice of the company has not been uniform in the matter of treating bond discount; that in their last bond issue they charged it as he states, and when the bond issue became due they wrote it off through the surplus account; but if you treat it as an item of overhead expense then you have to properly consider in the rate of return the fact that there was no discount in the stocks or bonds; that what he means is that suppose you did sell half your capital that came from bonds and half that came from stocks, and you sold each of them at 90, and they were 5 per cent bonds and you were selling them at 90, and considering the term of the bonds it meant that your capital would cost you 6 per cent instead of 5 per cent, if you treat the discount as [fol. 630] is suggesed you can only consider in your later return that the capital costs 5 per cent and not 6; that in handling the matter it would make no practical difference if you put the bond discount or cost of financing into the capital account and then allowed say an 8 per cent return, or allow the actual amount of money received as the capital account and increase the return to say 8½ per cent.

Cross-examination:

That the figures shown in Exhibit No. 1 for gas revenues in West Virginia were taken from the books of the company the actual receipts shown on the books being $2,310,971.00, which is shown in the statement at $2,318,831.00 because of some minor adjustments; that the half of the gasoline earnings which he added, of $934,395.00 all told, were for the year 1923, and that he allocated $234,626.00 of this to West Virginia; that he made no computation on the basis of 1924; that he did in his testimony before the commission bring the gasoline earnings down to November 30, 1924, and that the figures for the year 1924 were before the Public Service Commission; that the amount of $1,495,497.00 which he has added is the average rate paid for gas [fol. 631] in the state of West Virginia, deducting therefrom 4½ cents as representing the cost of distribution, and thus determining what would be a city-gate rate, and on that principle adjusting the rates of the parent companies; in other words, increasing the rates of the parent companies by the difference between what that average per thousand

cubic feet rate would be on that principle and the 7 cents which they were paying.

(By agreement of the parties there was introduced, to be considered as part of the evidence of this witness before the Public Service Commission, a statement bringing the gasoline earnings and expenses down to December 31, 1924, filed as Exhibit Jirgal No. 9-A, which is attached hereto as part hereof.)

W. J. Hagenah testified in substance and effect as follows:

That he lives in Chicago, Illinois, and is a member of the firm of Hagenah & Erickson, specializing in public utility analytical work, such as the making of appraisals, cost analyses, rate studies and financial investigations of all forms of public service corporations; that he has been en- [fol. 632] gaged in public utility analytical work for approximately 21 years; that his first experience in this field was with the state of Wisconsin, where he had charge of a number of public utility investigations before the Railroad Commission of that state, which was created as a public service commission; that in 1907, when the public service commission law of that state was passed, he was made rate expert, which position he held until June 1910, when, on the invitation of the city of Chicago, he was given a leave of absence to go to Chicago for the purpose of making two public utility investigations. These covered the Chicago Telephone Company and the Peoples Gas Company of Chicago. That he concluded this work in July 1911, and then engaged in private practice in Chicago, alone until May 1916, when the firm of Hagenah & Erickson was formed.

That during his twenty-one years' experience in this field he has made appraisals, cost analyses and rate studies of public utilities in practically every large city in the United States and many large cities in Canada and other countries, the aggregate value of these properties being in excess of two billion dollars; that he has made appraisals of natural gas properties and made rate studies of such utilities [fol. 633] covering properties in West Virginia, Ohio,

Pennsylvania, Kentucky, Louisiana, Arkansas, Oklahoma, Texas, Kansas and California; that he has represented the public service commissions of Wisconsin, New York, Tennessee, Alabama and North Dakota, and has made a large number of studies in the United States and Canada; that the investigations that he has made of public utilities furnishing gas have included both natural gas and artificial gas; that his firm has been engaged on some natural gas case or other covering practically all the time since 1917, doing more work of this character some years than others, and that the natural gas companies which he has appraised are probably worth over one hundred million dollars.

That he has studied the appraisals made by others of the properties of the United Fuel Gas Company and has made various investigations of accounting exhibits and has made some accounting exhibits himself on behalf of his firm since 1917; that he was employed by the cities of Huntington and Charleston on a previous investigation of the rates of this company; that at the instance of the cities of Huntington and Charleston he has analyzed the inventory and appraisal of the United Fuel Gas Company's property as made by [fol. 634] Messrs. Ford, Bacon & Davis and has made sufficient studies to make him believe that some adjustment should be made in the appraisals filed by them; that he has prepared a memorandum report covering this subject in summary form; that he has accepted the inventory and unit costs of Ford, Bacon & Davis, and in the report explained the examination he made and why he accepted their inventory and unit costs, and that said report is filed as part of his evidence marked Hagenah Exhibit No. 1 (which is attached hereto as part hereof).

By way of a brief explanation of the four page descriptive text which accompanies the exhibit, I may say at the request of the cities of Charleston and Huntington I, with two assistants, made a somewhat extensive check of the books of the United Fuel Gas Company, for the purpose of determining, first, the substantial accuracy of the inventory as made by Ford, Bacon & Davis, and, secondly, to ascertain the unit costs that they had incorporated in their appraisal, whether they correctly reflected the reproduction cost on the basis which they state in their inventory. In every instance, the checks we made agreed exactly with

those made by Ford, Bacon & Davis. These checks covered random checks of the most important classes of property, [fol. 635] such as transmission mains, buildings, local distribution systems and compressor stations. We found no error in any instance as to the unit costs. Our study extended over the entire history of the present company, in respect to all the larger classes of property, and I am able to state that the unit costs used by Ford, Bacon & Davis are correct as reflecting the basis which they state in their report or inventory. My only point of difference with Mr. Uebelacker's report goes to certain questions of principle, as, for example, the value which he assigned to the leasehold property, the existing depreciation in the physical property, the allowance for overhead charges and the subject of going concern value. In this memorandum, Exhibit No. 1, I have substituted the book cost for the gas leaseholds and gas rights, as determined by Mr. Jirgal; this item was $6,732,920.00 and appears as the first item at the top of the page 1 of the statistical data; that is a mere substitution of the book cost in place of the appraised value found by Mr. Uebelacker, as I think that more nearly and more accurately shows the true cost than the valuation figure which he adopted.

As to the per cent. condition of the property, I have differed from Mr. Uebelacker in principle. He has de- [fol. 636] termined or found and shows the per cent. condition of the property as determined by the inspection method. This is correct and is the proper method laid down by the United States Supreme Court for properties which have a more or less continuing existence, such as other public utilities, namely, artificial gas companies and electric companies, where the owners are under obligation to replace the property as it wears out in service. In the instance of the United Fuel Gas Company, the life of much of the property is determined by the life of the field; in other words, on the expiration or exhaustion of the gas reserve, the property devoted to the exploitation of the field would have very little value except for salvage and that would be of doubtful amount because of the cost of reclaiming it. It is my view that the property which will probably be replaced before the expiration of the gas reserves, which the company's engineers estimate to be

eighteen years, will therefore be equalized through the use of the inspection method; those classes of property whose life is limited by the life of the field will not have to be replaced, and in those instances the retirement of capital partakes more of the amortization principle than it does of the straight line depreciation; whether we call it [fol. 637] amortization or depreciation, a reserve is built up with a view to maintaining intact the integrity of the investment. If this is the rate at which it is being retired through charges to the company, to that extent it is a return of capital to the owners and is not property further subject to the full measure of return. If we take the instance of the transmission systems, which are not of a doubtful life, instead of eighteen years, the amount by which that property is being retired through the depreciation reserve, represents a retirement of the investment,—the property will not be replaced, and therefore the capital is in fact being returned to the owners. In those instances I have applied the straight line method.

The details of this memorandum, extending from page 3 to 15, inclusive, are an exact copy of Mr. Uebelacker's figures, in so far as the reproduction cost new is concerned. The per cent. condition, however, differs according to the probable future life of the property. In those instances where the property will most likely be replaced before the expiration or exhaustion of the gas fields, I have accepted the Ford, Beacon & Davis figures as indicated by a star for each of the items. In those instances, however, where [fol. 638] the life of the property will be cut short by the exhaustion of the field and is therefore for the same life as that of the field, I have adopted a percentage which reflects the reduced value on the straight line basis. This results obviously in a reduction of the value of the property. If this principle is adopted by the commission the reduction is approximately $2,000,000.00, more or less; if the inspection method is followed throughout and that is accepted as the rule of this commission, then the results as determined by Mr. Uebelacker are correct on that basis.

I made one further change, which I think should be considered in determining the present value of this property. I believe the general overheads which Mr. Uebelacker has incorporated in his appraisal report are rather large; they

range from 21½ per cent. to as high as 26 per cent. on the transmission system, being 22 per cent. on the distribution system, and on the general property he has made, and properly so, substantial allowances for intermediate overhead charges, which he calls the direct overhead charges, on page 24 of his report, marked "Uebelacker Exhibit No. 1." These items cover many of the costs that are generally considered as partaking closely of overhead charges and [fol. 639] direct costs. When, however, they are included in the direct costs to the extent he had made provision for, then I think the general allowance set forth on page 24 is more than should be allowed, because of the two items which he has included; I think an allowance for overhead charges to the amount of 18 per cent. is more correct and more reasonable, that percentage applying to all of the physical property, but not to the value or book cost of the natural gas reserves. By using my percentage of 18 against Mr. Uebelacker's percentage in excess of 22 per cent., there is a considerable reduction in the appraisal results. Mr. Uebelacker's total allowance for general overhead allowance, as shown on page 48 of Exhibit No. 1, is $7,063,000.00; against this my judgment is that $5,398,000.00 is correct.

There are corresponding differences in regard to the reproduction cost of the property less depreciation. Mr. Uebelacker has made no direct allowance in his report for going concern value, and expressing the opinion that there is a certain amount of depreciation in the property, which has not impaired its efficient operation, and that, for practical purposes, consideration will be given to the going concern value by giving greater weight to the reproduction cost new of the property as the proper rate base, it is my [fol. 640] judgment that the reproduction cost new, less depreciation, more accurately reflects the proper rate base, in so far as the appraisal is a factor in determining the present value of the property, and I have therefore added to my finding an item of $3,000,000.00 to cover the going concern value, which is practically 10 per cent. of the appraised present value of the physical property. I think the allowance for going concern value should not be measured by the extent of the depreciation, even though if true in this case that the business has not extended so far

as to impair the efficiency of the property's operation. I believe the existence of going concern value in a well managed, well producing property is well evidenced, and the only question to be considered is the reasonable measure of such going concern value. I have made many studies of this subject and, while there are various factors that may be considered, there is no one method which definitely represents the amount of any one company at any one time. From an analysis of all important court and commission decisions on this subject, I find in the majority of instances the sum the authorities have allowed, after considering all the evidence, has been approximately 10 per cent. of the value found for the physical property, and, [fol. 641] without making a study of the various angles which may have a more or less direct bearing on this theory, I have accepted the 10 per cent., which, in this case, is $3,000,000.00. I find as the result of Mr. Uebelacker's report that the present value of the property, based on reproduction cost, less depreciation, as of December 31, 1923, including an allowance for working capital and my estimate of $3,000,000.00 for the going concern value, is $34,692,100.00. Exhibit No. 1 does not contain the item of $3,000,000.00 for going concern value. I call attention to that because I want it to appear I have added $3,000,000.00 for this purpose, and wish it to be regarded so in Exhibit No. 1.

That he has accepted the item of $990,000.00 for working capital, which he believes from an examination of the company's accounts conservatively expresses the working capital allowance necessary; that he has taken the book costs of the leaseholds of gas rights rather than the appraised value, for the reason that he thinks the appraisal opinions expressed on behalf of the company are all based on a wrong method for determining the value of the property charged with a public interest and devoted to the [fol. 642] public interest, under state regulation; they have all used the so-called economic exchange theory of value, which the courts and commissions have repeatedly stated does not apply in determining the value of public utility property, in view of its public business depending on natural resources. The exchange theory of value is explained at considerable length in the Economic Works of John

Stuart Mill, Jevons and Taussig. It means the power of one product to command the acquisition of other commodities in terms or money exchange as of a particular date, unaffected and unrestricted by statute or artificial condition. The exchange theory of value applies in determining the value of coal lands, or iron ore, of timber lands and other completed products generally, such as buildings and dry goods. It does not apply to the appraisal of a property charged with a public service and under state regulation, because the minute it is changed you make impossible the finding of any value other then the one you start with in your assumption.

The exchange theory of value was originally adopted by the railroads in cases involving the determination of proper freight and passenger rates; that is, they proceeded on the theory which has been somewhat abused by interpretation, [fol. 643] that a proper rate structure was all the traffic would bear. The courts held that could not be made the proper basis for rate making purposes, because the moment you started out with the assumption that a certain part of the rate fabric was justified on certain conditions, the adoption of that resulted in the rate on which the assumption was based. That theory is discussed at some length in the Minnesota rate case by Justice Hughes. It has been considered in the appraisal of water power companies, where public utilities owning such natural resources have attempted to capitalize their savings resulting from the use of water power as compared with the next best available substitute, namely, steam power. Commissions have frequently held the company could not capitalize on that basis; they have recognized it to some extent; some arbitrary divisions have been made between the public and the owners of the resources, but the property can not be appraised for rate making purposes on the basis of capitalizing the savings as compared with the next best available substitute.

That he has made a study of the appraisals made by Mr. Ralph E. Davis and Mr. Uebelacker of the gas and leaseholds of this company; that he did not go into the details [fol. 644] of the character of the leaseholds or rights, but merely adopted the figure on the company's books, to wit, $6,200,000.00 in round numbers, and assumed that it related

to the identical property which Mr. Uebelacker and Mr. Davis appraised; that he gave no special consideration to the particular character of it; that he has prepared a report in which he has reviewed both the testimony and exhibits of Mr. Davis and Mr. Uebelacker and reduced his views respecting the matter to writing; that there are no statistical computations involved, but a mere discussion of the nature of the theory in application to the purpose for which they used it, and the improper use, or inaccurate use, of the data compiled by them in support of their theory, which report he files as part of his evidence, marked Hagenah Exhibit No. 2 (and which is attached hereto as part hereof).

That Mr. Davis, through the application of the exchange theory of appraising natural gas properties, arrived at a figure of the fair value of the gas reserves of $32,458,000.00. The basis he used is clearly set forth in his report, from which I have copied a paragraph on page 1 of this memorandum. As it goes to the heart of the entire problem I will read that, and it will qualify and also shorten the later [fol. 645] explanation. He says, "The value of a property capable of producing natural gas is conceived to be measured by the prospective earning power of the property placed at its most advantageous use. To determine the value of such property it is necessary to consider the present use to which the property is placed and to compare this use with other uses available. If the present use is found to be most advantageous, the valuation will be dependent upon the prospective earning power of the property in its present use. If a more advantageous use can be found available, it is necessary to determine if such use be competent to return a greater earning and the amount of such earning."

This states very clearly that Mr. Davis says that if any other use for natural gas can be found than that to which this company is now devoting it, and it will produce a larger measure of revenue, then the property devoted to the public should be appraised on such other basis and including in that the rate base for such service. That is the theory precisely condemned by the entire experience of public utility valuation. In this instance Mr. Davis, to apply his theory, finds that if the entire production of this company

could be piped to the Pittsburgh market, it could be sold [fol. 646] to the steel industries at a rate of 35 cents per thousand cubic feet. He arrives at that 35 cents per thousand cubic feet by determining what the cost of the service would be on the next most economical basis. That he finds to be the producer gas, artificially manufactured. He shows in his report what that cost would be, as to the fixed costs, on a hypothetical basis, the wages of the men operating the plant, and the cost of the coal, including the freight, and on the basis of price levels as of December 1923 he finds that producer gas could be manufactured for the steel industries at 35 cents, therefore any saving the United Fuel Gas Company could obtain on the basis of selling its gas in Pittsburgh, after deducting operating expenses and fixed charges incidental to the bringing of the gas there he multiplies over a period of eighteen years by this profit per thousand cubic feet, and since this revenue is to be obtained over a period of eighteen years in the future, he applies a compound discount factor; he makes a deduction of Federal income over the period of eighteen years, and arrives at a present worth of the field of $32,458,000.00.

[fol. 647] I have, with some care, developed the economic argument and the practical criticisms pertaining to this method, believing it would save time for all parties and also place the issues more clearly by setting them up in this form. The substance of my criticism is two-fold. First, the theory does not apply to the appraisal of public utility property. Mr. Davis says it has been used in the appraisal of mineral land for the purposes of sale and taxation. That is correct, and it is properly used there, but the important fact is that this is not a case of taxation and sale. This is a case of rate making, and the more important fact is that the theory in this particular class or character of property. Secondly, the data Mr. Davis has applied and on which he has compiled this theory is open to severe criticism, as to the reasonableness and the likelihood that they will continue long to reflect the cost of manufacturing the producer gas; also any questions as to whether this company could supply the steel industry in Pittsburgh.

I have already referred to some of the matters contained in this exhibit in answer to Judge Rummel's previous questions. On page 4 of this Exhibit I discuss at some length

[fol. 648] Mr. Davis's analysis of the Pittsburgh market. There are certain significant sections in his report. In one section he says:

"We find that today the steel industry of the Pittsburgh district is emerging from the period when natural gas was largely used as a fuel and entering a period in which bituminous coal supplies the fuel requirements formerly met by natural gas. It is evident that a critical period in the use of natural gas in the steel industry of the Pittsburgh district has been reached."

That is correct and is exactly the situation that now prevails in the Pittsburgh territory. The conditions there are that the natural gas companies have lost a large part of the steel business, and are losing more of the business. The Jones & Laughlin Steel Company have recently entirely abandoned the use of natural gas. This business can not be recovered by the natural gas companies, and one of the reasons is that the steel companies of Pittsburgh can not rely on the natural gas business is shown by a table or chart taken from a recent report of the United States Department of Commerce, showing the extreme fluctuations in the demand of the steel business, illustrating the old phrase, that the steel business is either "Prince or Pauper." The [fol. 649] various figures reflected by the orders listed from month to month indicate that the peak in the report falls far below such gas capacity in the regular cycles of depression, and it is my view that an indsutry, subject to such extreme fluctuations, could not carry the entire gas supply, if it took a considerable amount of gas to meet its maximum demand, in periods of high operations, that it would not be able to take the United Fuel Gas Company's supply at periods of depression, and if the capacity of the companies were adjusted to meet the depression in operations, then the steel companies would have to prepare for peak production, and that this condition has resulted in the steel companies making themselves independent of the natural gas supply.

I have examined the report of Mr. Davis in which he says that as an alternative to selling gas in the Pittsburgh district his valuation is sustained by the further fact that this company now has transmission mains connecting it with

many other cities where it is possible to obtain higher rates for gas, and that to the extent of these other communities or markets being willing to pay a higher price for gas, the value being sustained thereon should be included in the rate [fol. 650] base and serve as a justification for increased charges against the cities and consumers in West Virginia. That is another form of the exchange theory. It merely amounts to this. If in Pennsylvania, Ohio, and Kentucky, where the natural gas resources are not so well fixed and extensive as they are in West Virginia, they are, because of the higher cost of fuel, willing to pay for this rich product a higher price as determined by their next available substitute measure, the saving between the price which they are willing to pay and which the community here has been paying may be capitalized against this public. That has operated in this form. When the cities in Ohio and adjoining states pay a higher rate, the gas companies ask the people of this community to pay higher rates or the gas will be piped out of the State of West Virginia. When the cities in West Virginia pay a higher rate the gas companies say to the cities in other states, "If the gas companies can sell their product at home there is no incentive for piping the gas a long distance and they must have higher rates at distant points." When these rates are granted, the statement is made to other cities, "Unless you pay as high a rate as these cities are paying we will sell our gas where [fol. 651] we can get the largest price." This practice has resulted in a vicious circle, and Mr. Davis is capitalizing the natural gas reserves on the theory that that vicious circle constitutes an economic justification and support for the value which he has found, and using that theory as measuring the saving in this field.

Leaving the criticism of his theory, and taking up the data which Mr. Davis compiled—on which he based his saving—his estimate of the saving and value of the property on the theory of delivering the output to Pittsburgh markets, it develops that the costs that he used do not properly reflect the cost of manufacturing producer gas. He proceeds on the theory that the costs which obtained as of December 31st, 1923, will remain in effect substantially unchanged for eighteen years in the future. Practically every item of expense and every step in building up this large

sum of thirty-two million dollars as the value of the gas field is based on his opinion or is merely an estimate; the entire structure is entirely hypothetical and highly speculative.

I will not repeat all the instances in which estimates were made and the likelihood that other men, equally well informed and equally interested in the subject, would agree [fol. 652] with Mr. Davis as to the costs in each instance. It appears in the record that Mr. Uebelacker differs very decidedly with Mr. Davis as to the value of gas in Pittsburgh. Whereas Mr. Davis has computed it in great detail at 35 cents, Mr. Uebelacker believes it can be sold very profitably at 30 cents per thousand cubic feet. The difference of 5 cents is so large that in order to find substantially the same value in this instance, because they do find approximately the same results, Mr. Davis applies the compound discount theory to bring his result, based on a 35 cent rate, down to his final conclusion; while Mr. Uebelacker, starting from a 30 cent value, does not use the compound discount theory. Therefore, starting from two different bases and using two entirely different methods, which in principle should be correct either one way or the other, they arrive at substantially the same conclusion.

Mr. Uebelacker has used a method which has more economic support for it, except that it also does not apply in the appraisal of a public utility natural resource. Mr. Uebelacker has taken a number of contracts and determined the amount which the United Fuel Gas Company could save if it supplied the same service to the purchasers under these [fol. 653] contracts at the rates set up in the contracts. He finds that this is a saving of 5 cents per thousand cubic feet, as measuring the value of the gas underground. One of the six contracts or bases is the possibility of selling the gas product in Pittsburgh at 30 cents per thousand cubic feet, as opposed to Mr. Davis's computed cost of 35 cents per thousand cubic feet.

That if you are determining the value of the reserve, the compound discount factor should be used in both instances. The situation is somewhat confused, and treated inconsistently, because Mr. Davis is appraising the property on the basis of its probable sales value, Mr. Uebelacker is selling the product over a period of eighteen years, but a

purchaser investing his capital in a sum which would be returned to him over a period of eighteen years would certainly discount the price which would be paid to him, because he would not receive a full measure of return on his capital unless he did discount it based on the rate at which the gas is actually going to be sold. Mr. Uebelacker's method would be correct provided all the gas could be produced and delivered within one year or within a certain limited time, but it is open to other defects, because it is purely the exchange theory; it is capitalizing the monopoly [fol. 654] power to earn. It is not reflecting the value under public regulation. If you can capitalize the monopoly power to earn, then regulation ceases to have any worth. If regulation has any value or effect, then it must apply to the very purpose which it was created to cover and to protect the public against such exploitations. Both engineers have proceeded on the theory that this commission does not exist as an administrative body, and that there is no law regulating the use of a natural gas resource when devoted to the public service. They are, however, appearing before this commission and ask for an increase in rates on the accepted theory that there is such a law.

Now, you can not capitalize on the theory of monopoly and ask for an increase in a legislative authority on a right to capitalize on a monopoly power.

I show on page 13 the enormous increase that has taken place in wages, as shown by the United States Bureau of Labor, and raise the question as to the likelihood that this high schedule of wages and labor costs per unit of production will remain unchanged for 18 years in the future. History records no such instances and gives no support for the theory of Mr. Davis.

[fol. 655] To better show the extent of the tremendous increase in wages, I have produced in graphic form the table which appears on page 13.

I also want to call attention to Mr. Davis basing his cost of gas in Pittsburgh on the market price of coal as of December 31, 1923. There is no justification for his view that the market price of coal as of that day will remain the fair price of coal for 18 years in the future. I have prepared a separate memorandum setting forth the conditions which now obtain in the coal industry, why it is so disturbed

and distressed, the conditions which are operating to take the industry through a deflation, and the steps that must be taken to remove the artificial forces which have been applied to stimulate coal production and protect such interests in that business, and how they have operated to destroy and hamper rather than to benefit the industry. No study of the coal situation, especially in this part of the United States, can be made without coming to the conclusion that while the industry will emerge before long when the artificial barriers are removed on a more prosperous basis, this readjustment will be accompanied by a decline in the price of coal to the consumer.

[fol. 656] The study referred to was filed as part of his testimony, marked Hagenah Exhibit No. 3 (and is attached hereto as part hereof).

Exhibit No. 3 is an analysis of the conditions which are now operating to bring about a lower price of coal to the consumer. It analyzes the changes which are now under way in the industry, bringing it through the period of deflation which followed the stimulation of the industry during the war. The coal industry is going through more or less the same cycle, at least as to the major influences, which were present in the agricultural situation and in such other industries as copper mining, canning, pork packing, and others that can be mentioned. There is also a discussion of the substitutes that the public has resorted to, to get away from an artificial price level that has been created in the coal business, and the steps that the electric industry is taking, which will result in a material reduction in the use of coal, both through the development of hydro-electric properties and the construction of large central stations, where the amount of coal per kilowatt hour will be reduced to approximately one and one-half pounds per unit of energy, whereas in many stations throughout the United [fol. 657] States the production today is at the rate of from three to five pounds per kilowatt hour.

These forces are operating to reduce the total demand for coal and will compel the closing down of the high cost mines which were put into operating under the stimulus of artificial conditions, leaving the coal market on a much smaller capital investment and capacity, to produce the nation's supplies from those parts of the nation which are best endowed with the richest coal deposits.

I don't want to be understood as having this testimony or memorandum interpreted as indicating unfavorable conditions for the coal industry in the future for any part of the United States; on the contrary, to avoid exactly that interpretation, I have several paragraphs showing how, when industries have emerged from the period of deflation following the use of artificial stimulus, a greater prosperity has resulted than was present before. I show in this exhibit how that is working out in these very coal fields in this state and in Kentucky. You have an editorial in one of your papers which I think touched on that subject in a very excellent way.

[fol. 658] Exhibit No. 3 is filed for the purpose of reflecting the uncertainties and the speculations that Mr. Davis has resorted to in figuring out the cost of producer gas over a period of eighteen years.

That he has made a study of the appraisal of the gas lands and leasehold property of the United Fuel Gas Company as furnished by Mr. Uebelacker, and has reduced the said study to writing, and files the same as part of his testimony, marked Hagenah Exhibit No. 4 (which is attached hereto as part hereof).

Mr. Uebelacker has appraised the proven and probable production acreage of the company as of December 31, 1923, at $33,155,000.00. His estimated value of unproven acreage is $3,293,000.00. The total value for the combined proven and unproven acreage, he says, is $36,449,000.00. The basis used by Mr. Uebelacker in arriving at this conclusion is set forth in one paragraph in his report, from which I read as follows:

"The measure of the value to the owner or lessee of gas in the ground is the difference between the prevailing market price at which said owner or lessee can purchase gas delivered to the field mains and the cost to such owner or [fol. 659] lessee of producing and maintaining, with his own wells, an equivalent supply of gas at the same point of delivery."

In analyzing this principle it is necessary that three factors be determined. First we must know the total cost to the owner or lessee of producing and maintaining, with his own wells and equipment, an equivalent supply of gas cor-

responding in delivery conditions to those under which the gas is purchased. This total cost must include operating expenses and depreciation, amortization of the value of the equipment used and a fair return upon the investment in such equipment.

Secondly, he must determine the prevailing market price at which gas can be purchased as controlled by delivery conditions; and, thirdly, he must determine the recoverable content or the amount of the gas.

It will be seen at once Mr. Uebelacker is using the exchange theory. I have already explained the extent to which he had used this theory. I have, in this exhibit No. 4, discussed his reasoning and the error into which he has fallen, both as to the principle used, and the application of his data. Without going into detail, let me say that Mr. Uebelacker has taken six contracts or selling situations, un- [fol. 660] der which he has determined the cost which the United Fuel Gas Company would incur if it were supplying the same service under such contracts and the savings or profits which it would make. Naturally, there are different margins of profit under each contract, and he concludes that a fair average is 5 cents per thousand cubic feet, and he multiplies the total recoverable content, as estimated by Mr. Davis, by this 5 cents and arrives at his value for the proven gas acreage.

There is a great deal of speculation in each of these contracts because of the steps involved in determining the measure of profit or computations and opinions dealing with matters which are not present facts in the experience and operation of this company. No consideration is given to the capacity of the companies or the quantity of gas delivered. Apparently, Mr. Uebelacker has given as much consideration to a profit of seven or eight cents per thousand cubic feet on sales that would not aggregate any more than one or two days' demand on this company's system as he has given to the profits of this company on an amount as large as reflected by the quantity of gas which this company actually purchased in the open market.

[fol. 661] Again, these contracts, by their very nature, show there is no competition between the companies; that each contract is based on the conditions peculiar to the business relationship between the gas company and the

purchaser; that no consideration is given to the life of the field of these companies and the likelihood that one company may or may not be selling at a lower margin of profit than another company, or that they may be able to get a larger profit because of the fact that these contracts, as a rule have not been made under regulation. To the extent that this commission has not been consulted and approved of the contracts under which he developed the margin of profit, Mr. Uebelacker is also capitalizing the monopoly power of the utility free from regulation.

That the fact that the independent companies considered by Mr. Uebelacker have not the opportunity or the power to purchase their supply of gas from the United Fuel Gas Company is a factor to be considered, and also shows the speculative basis and the general unreliability of such data in measuring the value of the huge gas reserves of this enormous company. Further, it does not appear from Mr. Uebelacker's exhibit that these individual contracts of the [fol. 662] different companies fairly reflect their operating conditions. Being without the supervision of this commission, they may have made individual contracts, of which these may be examples, in which they made more or less profit than they made for their business as a whole, and on the basis of what this commission would consider as a reasonable return. The contract is apparently made by the two parties dealing at arm's length, the purchaser agreeing to pay such a price as he thinks will give him a profit in the particular unregulated field of competition in which he must sell his products. The price is not affected by the principles of regulation and the decisions which govern.

There is, however, one more serious objection to the data which Mr. Uebelacker has compiled. Mr. Uebelacker finds that the value of the gas in the field is five cents per thousand cubic feet. If we assume that the five cents measures the value of the product in the field, the company then stands in the position of buying its entire gas supply at five cents, purchasing the product at five cents per thousand cubic feet. The seller of that gas must take his return on the investment and any depletion charge, or other retirement charge, that he may wish to consider, out of the five [fol. 663] cents. There can be no further charge included in the operating expenses of the company after the

product is acquired at what Mr. Uebelacker says is the fair market price.

To illustrate, assume that the company was buying coal instead of gas. Could the seller of the coal, after he had received the market price for the coal, add thereto an allowance for return on his investment in his coal mine and for the depletion of his investment? If he added that to the cost that he had received in a fair market for his coal, would he be able to sell it? Would he not, by that very act, reach a price in excess of the market price? He who sells a product from his resources must reap his profit out of the price which he accepts.

Now, if the market value of gas is five cents, as found by Mr. Uebelacker, and we accept that for the purpose of illustration, the company then stands in the position of buying its entire output at five cents per thousand cubic feet, and there can be nothing added for rate of return or depletion pertaining to the investment out of which that product has issued.

That the company should treat the gas delivered each year on the same basis that it does the gas that it actually purchases in the field; that that is the inevitable conclusion [fol. 664] to be drawn from Mr. Uebelacker's testimony. He finds the gas is worth five cents in the open market. If that is true, and the company stands in the position of buying it at the open market price, how can the public, after paying the open market price, be asked to pay certain fixed charges as to the source of production from which that gas product was obtained. He reaches that five cent value after he deducts the cost of lifting the gas to the top of the ground, the drilling of the well, of the equipment, the abandonment of the well, and everything, and after deducting all those items he comes to the conclusion that the gas in the ground net has a value of five cents per thousand cubic feet; this must be the inevitable conclusion to be drawn from his testimony, because when we apply the principle which Mr. Uebelacker has accepted to other commodities we know that the result stated follows.

We have recently had a splendid illustration of that applied to a natural resource. I refer to the situation which was obtained in the copper mining industry for the

last three years. We have a number of very important copper producing corporations; one of the largest being the Anaconda Copper Mining Company. It is a high-cost [fol. 665] producer. Other large companies, and very favorably situated and low-cost producers are the Kennicott and the Chile Copper Company. The Anaconda Copper Company has enormous copper resources, but its cost of mining was eleven cents per pound during one of the recent years, being years of depression. The market price for copper during that time was thirteen cents. Chile Copper Company and the Kennicott Copper Company had mining costs of six cents per pound, while the market was thirteen cents per pound.

Applying Mr. Uebelacker's theory, the value of the Anaconda Copper Company's copper reserves was the difference between eleven cents and thirteen cents, or two cents per pound. The value of the reserves of the Chile Copper Company and other companies favorably situated was the difference between their costs and the market, which, by way of illustration, you may say is seven cents a pound. Here we have a competitive condition. In a thirteen-cent market which company is most favored? Naturally the low-cost company. They had large values for their reserves. They stand in the position of the United Fuel Gas Company; but when the Chile Copper Company sells its copper at thirteen cents, which consists of seven cents for [fol. 666] the value of the copper in the ground plus six cents, the cost of brigning it out, and then takes their advantage of the thirteen cent price in the market, can it go to the purchaser of copper and ask him to pay, in addition, a return on the investment of the Chile Copper Company in its mines? Can it further ask the buyer of copper to pay it a sum to cover depletion of its stock? The Chile Copper Company, any copper company, must take its rate of return or profit and its depletion charges out of the market price, because the market price means the price at which competitive conditions force the sale of the product; and anything added to the accepted market price immediately destroys the assumption, namely the market price.

In this instance, therefore, the operation of the copper company where there is competition—and this shows the

impropriety of Mr. Uebelacker's theory—because there is no competition in the natural gas business—the Chile Company and the Kennicott Company operated at a much larger percentage of capacity when copper was thirteen cents a pound than did the Anaconda Company. The Anaconda Company had to pass its dividend in spite of its enormous copper reserves because it had no margin of [fol. 667] profit over the cost of operation. Now that the price has gone to fifteen cents, Anaconda Copper restores its dividend. Kennicott Company is promising its stockholders to increase its dividend, based upon the competitive conditions and the natural advantages which result from the greater value of the reserves, and these, in turn, based on the lower cost of producing.

The United Fuel Gas Company, Mr. Uebelacker says, has a value of five cents per thousand cubic feet in the ground because there is a market. That corresponds to the thirteen cent price of copper. When it takes this gas at five cents per thousand cubic feet, it has paid everything that directly or indirectly enters into the operating cost or the fixed charges of the reserve, exclusive of the cost of lifting the gas out of the ground, because that has been taken care of through other operating charges.

That upon the assumption that the gas lands and the leaseholds of the United Fuel Gas Company are substantially of the value testified to by Mr. Uebelacker and Mr. Davis, he has made a study of the proportion that is presently used and useful in the service of the United Fuel Gas Company, and he files the same as part of his evidence [fol. 668] marked Hagenah Exhibit No. 5 (which is hereto attached as part hereof).

I have attempted to show in the analysis of the testimony in exhibits by Mr. Davis and Mr. Uebelacker that their valuation results were obtained through the use of improper valuation methods, and were based on hypothetical conditions and speculative data. Assuming, for the sake of further analysis of the subject that their conclusions are substantially right, but not admitting the accuracy of either their methods or results, assuming that the value for the gas reserves is approximately $33,000,000.00, it is my belief that not all of such value is presently used and and useful. The whole development of public utility regulation has recognized that the return should

apply only on a rate base which will include no more porperty than is presently used and useful in the public service. I believe that an 18 year reserve, even though it be worth $33,000,000.00, and even though it is desirable to have the company own such reserves, is not property used and useful in its entirety.

I believe that it is the settled rule that only such a part of a company's resources as is used and useful should be included in the rate base. I come to this conclusion from [fol. 669] a study of some court and commission decisions. I state, on page two of Exhibit No. 5, the recent expression of the Pennsylvania Supreme Court in finding that the value of the gas reserves is to be considered in the appraisal of the property but it says that not all of such value is to be regarded as used and useful.

How much of the company's gas reserves is used and useful at any one time is of course open to difference of opinion and argument. I have assumed that in this instance a five year's supply covering future requirements, is a reasonable amount to include in the rate base. If the gas reserves are to be appraised on a basis of the exchange theory, then only that part of the $33,000,000.00 reflected by five-eighteenths based on an 18 year life is presently used and useful and the returns would apply on such sum.

To illustrate the application of the used and useful principle as applied to natural gas reserves, I have prepared a blue print which is incorporated in exhibit No. 5 and shows the natural gas reserves in the form of a rectangle. A. C. F. D. bound the points of this rectangle and they represent the appraised present value of the gas reserves at $33,000,000.00, and cover an 18 years' supply. The marked or [fol. 670] shaded portion embraced in the vertical rectangle A. B. E. D. represents the present value of the gas reserves, assuming a five years' supply to be a reasonable amount to include in the rate base on the exchange theory of value. The horizontal rectangle, G. I. F. D represents the book cost of the gas reserves covering an 18 years' supply, stated by Mr. Jirgal to appear on the books as $6,700,000.00. The area marked by B. C. F. and E. represents that part of the 18 year reserve which is presently used and useful.

At this point, an important question of policy and possibly of law enters and I shall call attention to it so that the two possible conclusions may be presented for the con-

sideration of the commission. In the first instance, this company had acquired the natural gas reserves as a part of its business. The acquisition reflects the skill and judgment of its executives, who have been hired because of their skill and judgment, and as such are compensated by the company, and such compensation included in the cost of gas. Now the question arises, the cost of acquiring this property so long in advance of immediate needs and of carrying the same having been borne by the public, can the officials, representing the stockholders, bring this [fol. 671] property into use for the public on a basis which results in a large profit to them, after the public put in its way the facilities for its acquisition? If the principle of agent or trustee applies here to any extent, can the officials of this company, as officials of a public utility, with all that that term means, acquire an 18 year gas supply at a cost shown by the books to be $6,700,000.00, to meet an 18 year supply, and then, having obtained it for the public use, bring it into the rate at a value of $33,000,000.00 by the use of an exchange theory that in the first instance does not apply?

If the public has been charged with the cost of acquiring and carrying these properties, does not the profit which results from economic law and the growth of heavy population and use generally resulting during this condition inure to the benefit of those who carried the cost of acquiring and obtaining it? If the property is to be included in the rate base at is value, as here determined, that value can apply only to so much of the property as is used and useful. If the entire property acquired by the company is to go into the rate base, it cannot go in at any price or value higher than that at which the public has been charged for its [fol. 672] acquisition and carrying it.

Two possible elements of analysis and two conclusions result from the study of this diagram, and they appear on page 7. I read from them as follows:

"First. Assuming that a five year gas supply is a reasonable measure of the reserve presently used and useful, and also assuming, for this purpose, the accuracy of the appraisals made by the company's engineers, there should be included in the cost of service a return on only five-eighteenths of the value of the gas reserves, the remaining

property of this class being carried as an investment by the company at its own expense until such time when it is used and useful, when it will be included in the rate base at its then present value."

In other words, if it is acquired for the purpose of speculation against the public and the value of the reserves is the basis at which it is to go into the rate base, then such value can apply only to the part which is directly dedicated to the public use and made used and useful. It cannot apply to the property which is not used and useful, because the public is paying the carrying charges on it, and cannot also pay for the economic increment at the same time.

[fol. 673] That if the United Fuel Company, in order to protect itself, acquired a large amount of such gas leaseholds or properties at a time when it did not need them and probably did not desire them, that would make it all the more important that this theory be not accepted, because if the company has taken advantage of a condition to increase the cost against the public, the public should get the benefit of their foresight and wisdom; the company could not take advantage of this condition, which it clearly foresees, in the spirit of protecting the public against these conditions, and then capitalize it against the public. Where does the public gain in the slightest degree by the company going out and buying this gas land in the future if it must always pay for it on the basis of its gained value as determined by competitive conditions by the exchange method? The public would gain by the fact that it had the gas, but it would pay a price for it purely determined by the monopoly power. It would be no better off than if the officials never bought the gas in advance but went out in the field and bought it under conditions under which they are seeking to capitalize it against the public, when and if they bring it into the used and useful property. If they exercise the [fol. 674] foresight now and acquire it, the public should have the benefit of it because it is asked to pay for it. If it is not asked to pay for it, then it must pay a return on the value when those who have exercised that foresight at their own hazard bring it into the rate base.

Now, the second alternative is as follows. Adopting the same assumptions as are set forth under A above, there

should be included in the cost of service a reasonable return on five-eighteenths of the value of the gas reserves and a return at the same rate on thirteen-eighteenths of the book costs of such reserves.

Now that means this: That if the officials, exercising that foresight to which reference was made, acquired an 18 year supply, and the gas reserves are to be appraised on the exchange theory of value, then that part used and useful should be included on the market value basis, but surely the public should pay no more than a return on the actual cost of acquiring the gas lands held for future use.

That the question of competition among those desiring to acquire gas territory is an important factor to be considered, and it is considered in the method used by him. [fol. 675] The appraisals by Mr. Davis and Mr. Uebelacker recognize conditions as they were in 1923, and recognize a certain amount of competition which prevailed at that time. I am taking five-eighteenths of that value as reflecting the amount now used and useful. It is necessary to do that; if the question of value as determined on behalf of the company is accepted as the basis on which the five-eighteenths is to apply, under the theory used by the company, the natural gas reserves will each year increase in value, under all normal conditions, and the cost to the public would therefore increase; the valuation might reasonably be on their theory of $33,000,000.00 today and four or five years from now, if the anticipated competition develops, the valuation might rise to $80,000,000.00 or $90,000,000.00, in which event the public would again be asked to pay a return on the higher value. The higher the unit cost on which they base their testimony, and the greater the competition, the greater the value, so the only protection which the public has, if the exchange theory is to be considered at all, is to include in the rate base the value of that part used and useful to the public.

On the exchange theory, the increased competition would enhance the value of the company's gas, with consequent [fol. 676] ever increasing costs to the public; if the public has been paying the carrying charges which the company has incurred to protect itself against this competition, then the public should be protected against the high costs which result from competition, the carrying charges being its insurance against such excessive costs.

That he has studied the exhibit submitted by Mr. Uebelacker, and in providing for depreciation and amortization he believes Mr. Uebelacker has developed his depreciation and other annual charges on an incorrect basis. The percentages which he has computed are applied by him on his estimated value of the property, but in the judgment of the witness those percentages should apply on the actual cost of the property. That the purpose of setting aside a depreciation reserve and the purpose of an amortization reserve is to maintain intact the integrity of the investment; the owner is to be protected in the actual property that he has sacrificed or devoted to a particular use; he is not to be protected in any speculative venture outside of that particular sum; if there is depreciation in the property he is compensated by having his return figured on the value of the property; the public can be charged only with the amount necessary to maintain the integrity of the invest-
[fol. 677] ment; a reserve charge of this kind cannot very well be applied on an uncertain or fluctuating principle; if the property appreciates in value both the return and the appreciation would be bringing the investor a measure of profit; he is entitled to the profit resulting from the increased value, but he cannot also have that appreciation retired through the depreciation reserve; if the property depreciated, through adverse conditions, he would still be entitled to the principal amount which he has made a sacrifice of, even though that were lower than the actual cost; that would be necessary because of the competition which would be incurred through new capital; so it is the dollars invested that are protected through depreciation and amortization; that the values that he fixes on the leases go into the rate base for the purpose of return, whereas for the purpose of depreciation and amortization it is only the money cost which should be collected from the consumer and handed back to the company; whereas, if the method adopted by Mr. Uebelacker is followed, you would not only get the return on the increased value as estimated by him, but in addition to that make a profit over and above the actual cost in value of a depletion charge.

[fol. 678] That he has prepared a statement showing the distribution of the net earnings of the United Fuel Gas Company available for depletion, depreciation and the re-

turn on the reproduction cost less accrued depreciation, when the gas is valued at 5 cents per thousand cubic feet in the ground, and files the same as part of his testimony marked Hagenah Exhibit No. 6 (which is attached hereto as part hereof).

Exhibit No. 6 is designed to show the per cent which the company is earning on its reproduction cost new, less accrued depreciation, if the value of the gas in the ground is said to be five cents per thousand cubic feet, and the company is assumed to buy its entire production, that it is now producing from its field at such five cents.

The first part of the table is devoted to the determination of the investment or fair value of the property. These data are taken from Exhibit No. 1, the adjusted appraisal exhibit which I offered this morning. I have excluded from the total the book cost of the gas leases. There is included in the rate base, then, only that property which the company owns, beginning with its facilities for raising the gas and distributing it. The gross earnings are shown as per [fol. 679] the company's books, testified to by Mr. Jirgal; the operating expenses have also been taken from Mr. Jirgal's exhibits. Since, however, this table contemplates the purchase of the gas now produced, on the theory that the company is buying this from an owner who is getting all the costs incident to carrying an investment in productive fields, I have excluded from the operating expenses those carrying charges incident to carrying the present gas reserves; that is, the leasehold expense, rentals on unoperated acreage and royalty expenses. There is included among the operating expenses a charge of 5 cents per thousand cubic feet for the gas purchased in lieu of the items taken out of the operating expense, and also that part of the property that is not included in the rate base on this theory. These accounts have, then, been distributed over the major operating divisions of the company, showing the amount apportionable to the city of Charleston, the city of Huntington, the city of Williamson, and other sections of West Virginia, and then the total is shown for West Virginia. I further show the total for Kentucky and Ohio and for the wholesale service; the last column shows the total for the company as a whole; the value of the property, exclusive of the lease- [fol. 680] hold investment, but including an allowance for

working capital and going concern value, for $27,959,-180.00; the total gross earnings are $9,225,673.00. Among the operating expenses appear the items as per the company's books, exclusive of those charges pertaining to the leasehold investment, as carrying cost, and also the charge of five cents per thousand cubic feet for that amount of gas which the company is now producing, but which it is supposed would be purchased at the fair market price as determined by Mr. Uebelacker. That payment would be $1,-868,524.00.

There has further been an adjustment of 50 per cent of the gasoline net revenues, making the net operating expenses $3,496,147.00. The gross income is on this basis $5,729,526.00. Deducting the income tax, the net earnings available for depletion, depreciation and return are $5,417,-180.00. This amount on the company as a whole indicates a return of 19.38 per cent; for the city of Charleston, the return on this basis is 19.18 per cent; for Huntington it is 10.79 per cent; for Williamson it is 12.70 per cent; for the remainder of West Virginia it is 17.16 per cent, and the total for this state is 15.81 per cent. The ratio for Kentucky and Ohio is 23.34 per cent, and on the wholesale serv-[fol. 681] ice it is 20.14 per cent.

That in making this table he excluded the cost of the gas leaseholds, for the reason that if the company is buying its gas at the fair market value it could not also have included in the rate base the facilities or source of production on its own account; the income or return and the depletion charges which would be applicable to the investment in leases must come out of the five cents per thousand cubic feet, which is the market price for gas, and not to deduct it from the rate base would therefore result in a duplication; and for the same reason he has eliminated the carrying charges for the leases; this cost must come out of the five cents per thousand cubic feet collected by the owner of the gas. If at this price the company can make more than eight or nine per cent, that is their good fortune; if it cannot make a return of 8 per cent upon the particular leases devoted to this service, that is its loss, and not the fault of the public; that in making this statement he has taken the figures of valuation shown in his exhibit No. 1; that if he substituted for these the valuation figures given by Mr. Uebelacker the

difference would involve a lengthy computation, but would be indicated by this adjustment: that is, Mr. Uebelacker [fol. 682] shows the reproduction cost less depreciation, including the gas reserves, to be $66,070,000.00; his present value of the gas land leases and natural gas rights is $36,000,000.00, leaving the present value of the property exclusive of those rights approximately $30,000,000.00, to which should be added $3,000,000.00 for going concern value, which makes a total of thirty-three million, which compares with his total of almost twenty-eight million; that is, Mr. Uebelacker's basis would be five million more than his; and that difference is explained by the fact that he used a lower amount for overhead charges than Mr. Uebelacker did, and that his theory of amortization, in some instances, as determined on the straight line basis, is somewhat lower than Mr. Uebelacker's, otherwise they are in agreement; that if he accepted 8 cents per thousand cubic feet as the value of the gas in the field, after being produced, and the lifting cost being approximately 5 cents per thousand cubic feet, the value of the gas underground on that basis would be about 3 cents per thousand cubic feet, and this would make the return larger.

That he has made up a statement showing the amount and per cent of return earned on the cost of reproduction new [fol. 683] less depreciation when gas is valued at 5 cents per thousand cubic feet in the ground, and files the same as part of his evidence marked Hagenah Exhibit No. 7 (which is attached hereto as part hereof).

Exhibit No. 7 is based on Exhibit No. 6, but carries the analysis one step farther. It will be noted that the first column, showing the cost of reproduction new, is taken directly from the total investment figures appearing in the total under the first group near the top of the page on No. 6 exhibit; the second column figures are taken from the black figures at the bottom of Exhibit No. 6. There is next computed depreciation at the rate of 5.5 per cent on the book cost of the property. This aggregates $1,097,007.00; the net earnings available for return will then be $4,320,173.00, equivalent to an income of 15.45 per cent on the appraised value of the property. This income ranges from 6.84 per cent for Huntington to 19.40 for Kentucky and Ohio; the average for the state of West Virginia is 11.88

per cent. The allowance for depreciation shown in red figures in the third or middle column is taken from the testimony of Mr. Jirgal.

[fol. 684] That he has made a study with reference to the crude petroleum and gasoline production, consumption and stocks for the last few years, and files the same as part of his evidence, marked Hagenah Exhibit No. 8 (which is attached hereto as part hereof).

Exhibit No. 8 sets forth the statistics contained in recent official publications regarding the amount of crude petroleum consumption, the gasoline production, the domestic gasoline consumption, the gasoline stocks at the end of each month, and the number of days' stocks of crude oil on hand. There are two columns under six of the headings; the first shows the statistics in absolute terms, while the second column shows the index numbers; for the data in question, the information is given in terms of monthly averages for each of the years from 1913 to 1923, inclusive, and then the actual monthly figures are given for each month in 1923 and 1924. The purpose of this exhibit is to show, first, that there was a very unfortunate and unusual condition in the oil industry in 1923 and a part of 1924, but that the industry is now working rapidly into a more improved condition; the crude petroleum production is now falling off from the heavy outpouring during 1922 and 1923, when the California fields were breaking all records. This is shown [fol. 685] in terms of millions of barrels and also in the index number; while the crude petroleum is now falling off, as compared with a year ago, consumption is increasing. In other words, both forces are now working to the advantage of the oil industry; the gasoline production, the domestic gasoline consumption is breaking all records; the consumption is running from 15 to 20 per cent in excess of last year, and now being much heavier in the winter months than it used to be, because of the large increase in the number of closed cars and trucks which operate throughout the winter months, which condition was much less prevalent two years ago. The amount of gasoline stocks is also being reduced, and that is further reflected in the amount of oil on hand.

That the price of gasoline has increased within the last thirty days; that he does not know how many increases

have been made; that they have been extensive and covered large sections of the United States.

That he has prepared a statement showing the apportionment of investment and expenses between the gas and gasoline departments, and the per cent available for depletion, depreciation and return in the case of the gas department for the year ended December 31, 1923, and files the same as part of his evidence marked Hagenah Exhibit No. 9 (which [fol. 686] is attached hereto as part hereof).

Exhibit No. 9 is designed to show the investment of the United Fuel Gas Company that is used for the joint benefit of the natural gas and gasoline departments, and also the operating expenses that are incurred for the joint service. I have made an analysis of the appraisal report made by Mr. Uebelacker, and have deducted therefrom that property that is devoted in part to the benefit of the gasoline service; the production system is 100 per cent, or $14,122,814.00, devoted to this service; of the transmission system, which embraces four hundred and fifty miles of lines, 55 per cent is not charged in any way with the gasoline service.

The general property has been divided between the gasoline and the gas service, in proportion to the directly assignable property and that apportioned as above; I have then added to this the 18 per cent for overhead charges, making a total joint gas and gasoline property of $21,063,928.00. The ratio of the gross earnings between the gas and gasoline service is as follows:

75.38 per cent of the gross revenues comes from gas, and 24.62 per cent from gasoline; there is then deducted from this joint property 24.62 per cent, or $5,185,939.00, leaving [fol. 687] as property assignable entirely to the gas service $15,877,989.00. To check the appraisal, there is then added back the balance of the transmission system, namely, 55 per cent, the local distribution systems, the remainder of the general property and the overhead charges applicable thereto. This, when increased by the working capital and going concern value allowance, brings the total gas department investment to $29,506,161.00 as against $5,185,939.00 devoted to the gasoline business; the total is $34,692,100.00 or the appraisal result.

The next step was to make an apportionment of the operating expenses, and the same general principle was followed.

The production expense and the gas purchased cost have been charged entirely to the gas department; 45 per cent of the transmission expense has been charged to this department, because 45 per cent of the investment was charged to it. The general expense was distributed on the basis of the assigned operating expense to the two services, making the total joint gas and gasoline expenses $2,176,958.00; the gasoline proportion of the joint expense, distributed on the basis of the gross income, is $535,967.00. The joint property investment belonging to the gasoline department is $71,595.00, making the total operating [fol. 688] expense assignable to the gasoline department $607,562.00. In other words, if there were no separation made between the gasoline and gas department or no credit given to the gas department for gasoline revenues, it would be necessary to make an adjustment in the operating expense, which, as the accounts are now kept, includes approximately $607,000.00. This amount is now incurred on account of the gasoline department and should not be charged against the gas service. The present value of the property assigned to the gas department, as shown in the first division of this exhibit, is $29,596,161.00; the net earnings of the company, before depletion and depreciation, as shown by Exhibit No. 1 of Mr. Jirgal, are $6,504,270.00. If we deduct from these net earnings 50 per cent of the gasoline net earnings, there is a total of $5,569,876.00, which represents the net earnings before considering the gasoline business. Adding back the gasoline proportion of the joint expense, as determined above, namely, $607,562.00, there is shown a net earning, after adjustment for gasoline, of $6,177,438.00; this amount being available for depreciation, depletion and return. This is then equivalent to a return of 20.94 per cent.

That he has prepared a statement showing the per cent [fol. 689] earned on the various valuations made by him and others, and files the same as part of his evidence, marked Hagenah Exhibit No. 10 (which is attached hereto as part hereof).

Exhibit No. 10 is by way of summarizing the effect of my testimony and that by Mr. Jirgal. I show the effect of these various adjustments, as reflected in the per cent return on the valuation. Five different comparative studies

are made. The first column shows the return, based on the present value of the property as determined in my Exhibit No. 1, including the gas reserves at their book cost; the net earnings before depreciation and depletion are taken from Mr. Jirgal's exhibit in each case; the provision for depreciation and depletion is likewise taken from his exhibits, and the deduction of the provision for depletion and depreciation shows the net earnings available after depletion and depreciation, the return earned by the company on the basis of the present value of its property, with the gas reserves included at the book cost is 14.72 per cent. If instead of carrying the gas reserves into the rate base at the book cost, we assume that the value of the gas reserves is approximately $33,000,000.00, and that only the part presently used and useful should be used in a rate base or [fol. 690] five-eighteenths of such appraised value for the reserve, the return is 13.75 per cent. The rate base in this instance is somewhat greater, because five-eighteenths of $33,000,000.00 is more than the book cost of the gas reserves.

The third column shows the return computed on the book cost of the entire property; that is, without any adjustment to reflect the increase in cost, due to advancing labor and material prices. On this basis the return is 16.86 per cent.

The fourth column shows return to the company on the basis of Mr. Uebelacker's testimony, that the gas in the ground is worth 5 cents per thousand cubic feet; eliminating from the rate base the investment in the gas reserves and eliminating from the operating expenses the charges incident to carrying such reserves, and adding back in the place of those two items five cents per thousand cubic feet for the gas produced by the company, the return is 15.45 per cent. Making adjustment for the gasoline department, and treating the gas business as a utility by itself, taking from both the joint and the operating expenses, the items chargeable to this business, or, in other words, making adjustment for the part of the profits from the gasoline business to [fol. 691] cover the services performed for that business, and the property devoted to that business, the net return is 20.94 per cent. This latter percentage, however, is before making any provision for depletion and depreciation. To make the latter adjustment was rather an involved proposition and I did not have the time to carry the study farther.

Some subtraction would have to be made for depletion and depreciation, but I can not say by what percentage it would vary from the other figures on that same line.

That he has examined Mr. Jirgal's Exhibits filed with his evidence in this case, and is familiar with the method used by the company for making provision for depreciation; that this provision for depreciation is made at the rate of five and one-half per cent on the gas property and a somewhat lower percentage on another branch of its business; that this has resulted in an amount in excess of ten million dollars shown on the books of the company to the credit of the depreciation account. The amount which the company has set up for depreciation, as shown in its balance sheet, has resulted in a large credit balance in a property having a limited life, such as the natural gas company is here, the life being limited by the life of the gas reserves, [fol. 692] this depreciation has been charged against the public on a basis which contemplates its retirement, and, under the principle, should be treated as a return of this amount of the investor's money, unless actual replacements are being made, and to the extent that replacements are being made the property is being kept intact and the public should be charged with a full return on the investment. Where, however, no replacement of the property can be made because it will outlive or at least live as long as the life of the field, the capital is being returned to the company and may be used elsewhere,—it may be used in other gas properties or in an entirely different field; the deduction of the amount of capital which has been paid back on that part of the property that need not be replaced, should be reflected in the rate base figure to assist the company for using the money collected through depreciation for replacement purposes, but which has not drawn on that reserve because the replacements are not necessarily in use, and the public should receive the benefit of the interest earned by that sum of money; the interest thus earned by the depreciation reserve balance should operate to reduce the [fol. 693] charge against the public for depletion and depreciation.

That where the depreciation is set up with a view to replacing the property and it has to be replaced, the depreciation reserve should not be deducted from the rate base to

find the present value, because this property is being held in substance as a trust for the public, and therefore is part of the rate base; where, however, the property is not to be replaced, then the charge is equivalent to an amortization of the property, and to the extent that it is being amortized the rate base should be adjusted. Mr. Jirgal's exhibit shows the reserves set aside for actual replacements—that is, the depreciation reserve—have been drawn on for some replacements, but most of the charges against that reserve have been on account of abandoned acreage and wells, and not for partial retirement of property still in service, like the distribution service and transmission mains. The reserve must be considered in two divisions, just as the property is in two divisions, that part of the property being replaced during the life of the reserve and property subject to depreciation, and to the extent that the money is accumulated for that purpose; as to the second part of the property, which will never be replaced, the amount the company is charging against the public for the retirement of that [fol. 694] property is an amortization of capital, and unless an adjustment is made in the rate base on account of the amortization the public is charged with giving back a part of the capital and nevertheless charged in addition with the full return on it.

The reserve pertaining to the property, which must be replaced during the life of the field, and that property which will not be replaced but which is gradually being retired, as to the latter there is no interest provision, because the capital is in effect given back to the company. I merely say where it is given back, the public should not also be charged with a return on the money paid back. Now, as to the first proposition, just as we find that reserve in all continuing public utilities, and it is there for the purpose of making replacements—you can not make replacements every year on every class of property; some has a long life and some has a short life. Assuming that the provision has been made, with the greatest care and accuracy, and will always be and must always be in the strictly depreciation reserve a credit balance, as to that credit balance which [fol. 695] the company is setting up in its business or for money invested in a change or any other place, the interest

it earns should be credited to the depreciation reserve, and to that extent reduce the charge to the public.

That the company has a large reserve—one particular reserve; it has been making very few replacements, but using it for retiring abandoned acreage and wells, so few replacements have so far been necessary; minor replacements have been charged into operating expenses, but any very extensive replacements that have been made have been out of the depreciation reserve; their replacements have been largely, however, through operating expenses.

That he has studied the method used by Mr. Uebelacker in making an apportionment of the investment expense to the domestic and industrial consumers, and does not think it is the best basis. The natural gas business is not of the kind where demand is the determining factor; the demand theory applies particularly in the electric light industry, where the production of the company is not to be stored for any length of time; it applies also to the somewhat lesser effect in a telephone plant. The demand theory has [fol. 696] had very little recognition in the artificial gas business, where companies are able to build a storage holder which can cover the company's requirements anywhere from 18 to 24 hours, with the result that the plant can operate on a fairly uniform basis. In the natural gas business the company has an enormous reservoir, covering eighteen years' supply, and if the demand factor is of little weight in an artificial plant, it is of less weight in a natural gas plant. Mr. Uebelacker has estimated this by determining the daily consumption of the domestic and industrial classes. He has overlooked the fact in his method that in the industrial consumption it is not nearly so continuous throughout the month as is the domestic consumption; the industrial demand falls off for holidays and Sundays every month, and that sometimes there are more holidays, generally in the winter months, and that part of the maximum demand we have come on the holidays, beside the Sundays in every month, and then the industrial demand is heavy—it might not be so heavy Saturday afternoons in some plants—and if you take the monthly consumption and divide it by thirty you are penalizing the domestic consumer for the benefit of the industrial consumer, because he is receiving a smaller [fol. 697] percentage of the total.

The natural gas business is one in which the factors are not related to demand, but are rather a constant and what is known in accounting as a use factor as opposed to a demand factor. That he thinks the use basis or sales basis in a natural gas plant should be used in proportioning the investment and expense as between domestic and industrial consumers, because the characteristic features of the natural gas service are not related to demand.

Cross-examination:

That he does not think Mr. Uebelacker's basis of apportionment between domestic service and industrial service is the best method; that it is the wrong method as compared with a better one, and the better one is to base it upon the amount used by each service; that is, the quantity used by each service should be the determining factor; that there might be some modification of that—in fact, there should be some modification of that, although he would not say that either method was 100 per cent right regardless of the other; that he considered the use basis the best if consideration is only going to be given to one factor, but he has not attempted to make the segregation; that he would give [fol. 698] greater weight to the use factor; that in this case he would give it all to the use factor, although, if he was making a study over the period, as Mr. Uebelacker has, he might give some weight to the demand factor, so that his final answer would be somewhere between the two, because there is not a 100 per cent accuracy as between the two bases; that from his investigation the use factor would be the proper factor, and that he makes this statement after his investigation of six months, and that the rate per unit of natural gas should be the same for both domestic and industrial purposes to the extent that the cost could be determined by the use, but that the rate would depend on some factors that vary with distance and factors other than use; that some of these factors are interest, depreciation and operating expenses; some of these have been distributed on a distance basis; some are distributed as an overhead factor and some on use; that in making the rate he would base it upon the use factor; that there should be a difference in the two rates, of course, if you have a right to interrupt the industrial service, but he can't say how much that dif-

ference should be; that he has made no study of the operating costs and expenses; that this subject was not assigned [fol. 699] to him for study, and he was simply asked a hypothetical question and he was testifying on that basis that the use factor is more reliable than the demand factor; that he agrees with Mr. Jirgal on that point; that subject to the benefit that the industrial users have if the service can be interrupted on days of insufficient supply or other factors, the rate should be the same for domestic and industrial purposes; that he does not know what this difference would amount to, and has not studied it; that he knows that the basis adopted by Mr. Uebelacker is not correct; that he knows that by applying the basis he suggests he would not reach the conclusion that Mr. Uebelacker has reached; further than that he cannot say, because he did not make the study in the way Mr. Uebelacker did; that Mr. Jirgal covered that subject; that he was only asked one question from that standpoint, and he thinks the use factor is more reliable than the demand factor; that as between the two that is the best one to use; that Mr. Uebelacker did give some consideration to the use factor; that his report is perfectly clear but at the same time the way he determined the demand is, he thinks, wrong.

That he considers all of the eighteen years' supply of [fol. 700] gas which the company has is immediately available; that it is true that it would require the drilling of something like a thousand wells to make this supply available, but all of the gas could not be sold in one year; that it does not make any difference whether there is one year or five years available, there is ample gas to meet the demands in storage; that there are certain operating expenses in connection with the use of the holder; that the fact that additional wells would have to be drilled to get the additional gas out has nothing to do with the present demand; that he simply called attention to the fact that from a cost accounting standpoint there is a reservoir which is good for eighteen years for the purposes of this rate case; in determining the demand factor it would not make any difference whether the reserve is good for one or eighteen years; that he appreciates that you can't bring it in without having gas wells; the fact is that in operating property demand is not the determining factor; the costs are related

to use and consumption rather than maximum demand; that there should be no such thing as interruption of any of the service only to the extent that you have those ex- [fol. 701] traordinary conditions to be accounted for, and they are not brought about by demand; they are brought about by extraordinary conditions, weather conditions, temperature conditions; that cold weather in the winter time is an extraordinary condition; that hot weather in the summer time is an extraordinary condition as affecting the costs; these conditions are normal as continuing year after year, and the plant is built with the idea of taking care of the normal ranges and fluctuations in temperature up and down; they are not extraordinary; it is only a certain day when the demand may be so great from certain classes of service; that is true in every class of public utility; you can't throw on a power load in an electric plant without having some arrangement as to notice; that there are provisions which the plant is designed for in operation, but because they may come any day certain classes of consumers must suffer interruption of their service, and as between the domestic and industrial the industrial should suffer; that is not a factor that is considered as demand in cost analysis; it is a normal demand; the amount consumed in use by the customer should determine the cost of the service; the fact that certain service may be cut off should be given some consideration; it is not one of the [fol. 702] factors that goes to the maximum demand theory in distributing costs; you have conditions that are inherent and more or less abnormal in every class of business; that does not justify the maximum demand theory in making rates.

Here is a simple illustration for my point. Now Mr. Uebelacker takes the sales on the industrial and domestic consumers on a monthly basis and divides them by thirty, the number of days. Now that does not give the proper basis, because both classes of customers subject to that adjustment are not operating under the same conditions. The industrial consumers are not using the product for thirty continuous days; the domestic consumers are. Consequently, if such a division is to be made, the basis of a demand, you are giving the industrial consumers the benefit, because they are using the service four days a month less

than the domestic consumers; consequently your percentage of burden thrown on the domestic consumer is unduly high. If you interrupt them one or two or three days for any reasons extraordinary, the burden thrown on the domestic consumers would be correspondingly greater.

[fol. 703] That the interruptions in the service would come because of extraordinary conditions, but the coming of Sunday is not an extraordinary condition, that is an ordinary condition, and is a condition which he thinks Mr. Uebelacker should have considered, and which apparently he did not; that in his judgment as between the $33,000,000.00 valuation on the exchange theory and the amount appearing on the books of the company as the value of the gas reserves, he considers the book cost more nearly reflects the proper rate base, especially since the company can go out into the field and reproduce or replace those leases on a cost less than the amount shown on the books; that Mr. Jirgal's statement shows that it is replacing leases; that large numbers have been renewed at maturity on a basis much lower than the cost they now stand on the books, and, of course, very much lower than the amount at which they have been appraised; that he does not know that the company would have a right to keep alive the leases by simply drilling a well unless the owner renewed it; that he does not know whether the company could divest itself of its property by forfeiting the leases; that he does not want to be understood as admitting that an owner is not entitled to the appreciation of the value of his property; that he says [fol. 704] that he is entitled to such appreciation; that he has approved Mr. Uebelacker's appraisal on the very principle that he thinks he fairly states the reproduction cost new of the property; that he differs decidedly with him, however, as to the method and results arrived at in determining the fair value of the leaseholds; that in his opinion if a value is to be considered it should only be to the extent of the used and useful proportion of it; that he knows, and everyone who has studied the subject knows, that when you are dealing with so uncertain a quantity as gas underground, uncertain as to all the major factors which go to make value, it is extremely difficult to evolve any theory that is practical and reasonable; now the company engineers have one theory; that he thinks that is wrong and

leads to an extreme result, but if that theory were to be accepted by the courts or commission then only five-eighteenths of that value should be included in the rate base; that it is difficult for him to say what value he would put on the leaseholds; that he can't say what theory of value is absolutely right, because that is for the courts and commissions; that he suggests, for the consideration of the courts and commissions, that knowing how uncertain and [fol. 705] difficult it is to determine the value of property of this character, but at the same time knowing that there has been appreciation in the value of all property because of the increase in the labor and material prices, the decline in purchasing power of a dollar, and those varying factors, and since the Government reports show that this average appreciation or adjustment due to the purchasing power of a dollar in its decline since 1913 indicates an appreciation of about 50 per cent, I think that if the company can show that it has invested here a matter of seven million dollars—actual dollars invested in these gas reserves—and that there having been an appreciation of approximately 50 per cent in property generally throughout the United States, that if it was given an appreciation in its leasehold actual investment to the extent that all property has appreciated on an average, which here would be $3,500,000.00, it would give a value for the leaseholds between ten and a half and eleven million dollars; that is one way of trying to recognize the appreciation of one class of property, which is very difficult by its nature of appraisal; that is only one method of arriving at it, and he would not say that even he would consider that as final, but submits it as something bearing on [fol. 706] the value of this class of property. In other words, if those who have invested in gas leases, as compared with those who have invested in other classes of property, receive the average increase in the value that other property has experienced, they are not being injured; it may be that those who have invested in one kind of property have made a larger profit, while those that have invested in farm lands have lost money, but if any industry receives the average it is not being abused; that he cannot see the reasonableness of a $33,000,000.00 value; that he may agree with Mr. Uebelacker and Mr. Davis that if the exchange theory is to be considered as controlling $33,-

000,000,00 is a fair figure, but then that only that which is used and useful should be included, because the public is paying for the carrying charges.

That the present United States Government index number is about 150 or 151, as compared with prewar prices; that it has been over [illegible] and is now fluctuating between 149 and 152; some classes have gone higher, others not so high; that is an average; that copper can be bought now for 50 per cent. in excess of the 1913 price, and that this is true of farm lands, which is a big class of property; that you can't buy natural gas at 50 per cent. over what [fol. 707] you did in 1913; you can buy rubber, you can buy automobiles, and you can buy a large amount of machinery and you can buy some classes of clothing at that rate; that he thinks it would be more accurate to get the appreciation in the particular class of property that you are valuing if the factors can be found that make this higher value; if you can find that the factors that make this higher value are factors under Government regulation, and not because of competitive conditions outside of regulation; that he does not mean to say that competitive conditions must not be considered, but that the value of a product cannot be determined on the basis of the next most available substitute; that the Supreme Court of this State has said that the company is entitled to appreciation, but was not entitled to measure it in the way it is sought to be measured here; that the court said it could be measured by conditions not affected by the rates fixed by public service corporations, but that this did not necessarily leave competitive conditions as the only factor from which to determine the values; that you have the analysis of the company's costs, you have many costs going into the selling price of gas besides the product in the field; that in arriving at the value of gas lands you cannot capitalize it on the basis of [fol. 708] the next available substitute; that some of the commissions have considered the question and said, "If there has been such appreciation let us work out some problem for apportioning this benefit between the public and the company;" they have done that in valuing water powers.

That his calculations are made upon the basis of the values indicated; that does not mean that that is what the

commission will do about it; that all of his exhibits are not based upon giving to the public the benefit of the appreciation in the value of the gas leaseholds; that No. 7 is based upon the basis of the value of 5 cents for the gas in the ground; that if gas was selling for 18 cents at the mouth of the well on the basis of this exhibit the return would be very low; there might not be any; that if the market value theory is to be accepted then whatever that market value is must go into cost, and if it costs 18 cents in the field the public will have to pay more for gas; that he is not arguing on that theory; that he merely says that if the market price of gas is 5 cents, as Mr. Uebelacker says, then the company is making money on that basis; that if the commission should accept that theory and the evidence shows that the market price of gas in the field has sub-
[fol. 709] stantially increased or has increased to 18 cents since Mr. Uebelacker's statement, because of more competition, the income would be reduced to a point where there is no return at all, for the reason that it would be worth as much or more in the field than the company is getting for it; that he has only a very vague idea of what is responsible for the price mentioned in the field, and that is that there is competitive bidding and things of that kind.

That there is another illustration in his exhibits in which he did not take all of the appreciation for the benefit of the public, and that is the one in which he apportions five-eighteenths of the $33,000,000.00 and recognizes the appreciation in that case very decidedly; that in that exhibit he sets up his judgment as to what is used and useful; that he does not think that any company could build a gas plant like the United Fuel Gas Company has on a five years' gas supply and at the rate of 20 cents a thousand cubic feet, and that he has not even been suggesting that; that there is nothing in his testimony and not even in his ideas that would justify that statement; that he believes the company should go out and acquire gas and leases; that it is a good thing for the public that it has that eighteen year supply;
[fol. 710] that it would be better if it had a twenty-five year supply; but he does say when the public is charged with the cost of the skill and judgment used in the acquisition of that gas and the cost of carrying it the public

should not be charged with the appreciation when later that property is dedicated to the public use; that he does not think what the gas leaseholds were valued at or what the company paid for them seventeen or eighteen years ago is necessarily any measure of their present value, but he thinks it is a measure of what the public should be charged with, since they have been carrying it; that on the assumption that the company put in several million dollars to acquire this gas field at a time when it was a purely speculative proposition, and when the people of Charleston and Huntington would not put up a cent for it, and for eight or nine years did not make a cent on it, and when it got to be a good proposition, that he would not say that the public should have all of the benefit of the advance, but that he can't get away from the proposition that if the company went out and bought it at that time and the public carried it that the public is entitled to a very substantial benefit by the advance; that it is his understanding that the [fol. 711] company has made a great deal of money and put their money back into construction, and if it did so the stockholders have received the benefits; that is, they put the money right back into the business and risked it again; that he thinks the statistics show that the stockholders got a very handsome return for their risk; that the mere fact that a dividend has not been paid does not prove that the stockholders have not been compensated for that; that the company purchases from 20 to 25 per cent. of the amount of gas it sells, and that in all of the accounts that gas is carried just at the amounts which the company pays for it; that it is acquired under contracts made some ten or fifteen years ago—at least, some of it—and that the public is getting the benefit of all those contracts; that those contracts are of some value, and would be if the company was to sell them; but if the company acquires them in the course of its business as part of its stock in trade, he don't see how they can be appreciated under Mr. Uebelacker's theory; if all gas, whether produced or bought, were put in at his estimate of 5 cents per thousand cubic feet, you would correct any unfortunate situation that might hang over from seven or eight years ago; that he does not consider that the contracts which the United Fuel Gas Company has to [fol. 712] purchase gas are of any value if the market price

is 5 cents a thousand, and that if producers are getting 18 cents per thousand cubic feet and the United Fuel Gas Company has a contract at which it gets it at 5 cents a thousand cubic feet that this may only be an individual case; that he is basing his estimates on market value; that assuming that the market value is 18 cents in the field and the United Fuel Gas Company has a contract at which it gets gas at 5 cents, the contracts are worth something, but not the difference between 5 and 18 cents, but that this difference is not taken into consideration in any of the exhibits; it is not included in the going value, and that he has made no independent appraisal of the natural gas reserves, but has based his testimony on the findings made by Mr. Uebelacker and Mr. Davis, and there is nothing to indicate that they took that factor into consideration, and it is not present in his calculations; that he did not make any appraisal of the company's property to check the appraisal made by others; that he checked Mr. Uebelacker's report, found it to true in most respects; as to the inventory and reproduction costs it is correct; that he checked some of the items to find if they were correct, and if he had found Mr. Uebe-[fol. 713] lacker's costs to be too high or too low he would frankly say so; that he thinks they are right; that he has checked them with unit costs he has made in other appraisals and appraisals he is making now, and thinks the appraisals are very fair and a very excellent statement of the reproduction cost as of the date that is shown; that his reproduction cost and Mr. Uebelacker's are exactly the same; that they agree there; that he does not believe that the reproduction cost is 50 per cent. in excess of the original cost; that if there have been additions to the property in the last year, that is, during 1924, they should be added to his reproduction cost; that that would simply bring the inventory and appraisal down to date; that the plant which he examined was in good working order and first-class condition to perform the functions for which it was intended; that assuming that there was added to this plant during the year 1924 ninety additional wells, a new compressor station, and other entirely new appliances, and that the amount of gas sold notwithstanding these additions was less than in 1923, that he would say that the trend in the price of gas was upward; that it is a fact that as the gas

field gets older and the pressure is relieved it costs more money to produce the gas, as a general rule, and that he [fol. 714] would expect that the company would have to add additional units to its plant in order to produce from that field the same quantity of gas it is now producing with its present plant.

That he has depreciated the plant not by any single percentage; the straight-line depreciation is applied only on that class of property whose live would terminate on the exhaustion of the field, and there he depreciated it on the year-life basis for the class; he has not used any percentage because the life is different on each class and the percentage would be different; in the operating expenses there is a depreciation factor; that as to these items of depreciation it is based on a future life of the plant of eighteen years from the first of January, 1924; and that assumption is based upon the further assumption that there will be the same quantity of gas produced from the field each year thereafter; that he does not expect that the assumption that there will be the same amount of gas produced each year in the future that there has been in the past will be realized; that there is no possibility that it can be done each year; that it may be that the company will drill more one year than another or get more desirable gas production [fol. 715] one year than another year; that he supposes Mr. Davis took that into consideration; that he mentioned all those factors and stated how promising some sections of the field were that the company is approaching; that ordinarily as the field approaches the end of its life the production grows less and less; that applying the straight line method of depreciation you would be collecting as much for depreciation at the eighteenth year as the first year; that this would not make the price of gas so high that it couldn't be sold, because the management would anticipate that situation ten years from now, because it appreciates that fact very well at the present time, and will adjust its fixed charges accordingly; that good management will do that; by the fixed charges he means depreciation; that depreciation is the matter that is now sought to be adjusted, that is, the amount that would have to be taken care of if the nature of the business, because of the life of the field, made it necessary for them to charge more for one year to

get their capital back, they would be perfectly free to do it, for the purpose of making a rate today, eighteen years before the situation you anticipate happens.

[fol. 716] That the theory of amortizing the plant on the basis of each thousand cubic feet of gas that comes out is all right provided the amount included in the charge per thousand cubic feet is the amount that will retire it on a proper basis, and that the first thing to do is to find out what amount of money it takes to do it, and after this is done it is easy to distribute that over the gas at so much per thousand cubic feet, and that that is the logical way to do it, but that does not prevent you from adjusting your capital value accordingly, and that if it is all taken out in one year or in fifty years it would make no difference as an operating expense, but it would make a difference as a capital value; that the question of time enters into it even if you amortize it at so much per thousand cubic feet; it enters into the amount of money that you must get back again; you may have to raise or lower that rate according to all these uncertain factors with which you must contend; that you have capital value on certain classes of property you want to get back in eighteen years, assuming that you have eighteen years operations; there will be fluctuations, but then it is not so important; but these factors that determine the life of the property are themselves uncertain, so it cannot be [fol. 717] made exactly accurate for eighteen years; that it is not understood that the commission will fix a rate now for eighteen years, but in fixing the rate it will look into the future for a reasonable period, but not for eighteen years ahead, but that all of these things must be taken into consideration; that all of the theories he advanced are analyses for the purpose of disclosing the weakness in the theories that the company's engineers have relied on; that he is not advancing any theories, but is criticizing theories that have been advanced by them; that he has showed the logic to which the inaccurate application of a theory would lead, and has showed what would be more fair under the circumstances.

That courts and commissions have held that the exchange theory of value could not be used in appraising natural resources devoted to public utility service, illustrated by means of the railroad rate making and also the appraisal

of water powers; that he does not mean to say that in those instances the cost of the property is to control; that he does not think it should control; that the United States Government has spent large sums of money to ascertain the present value of the railroads for rate making purposes, but that it has not applied the exchange theory, but has attempted [fol. 718] to find the reproduction cost of the property embracing labor and material; that it is not appraising natural resources on the exchange theory basis; they are appraising the lands owned by the railroads on the basis of the selling price of adjoining similar lands, which is an open market proposition; land is not a property that is capable of monopoly power exercise; that natural gas reserves should not be appraised on the same basis because a natural gas reserve is a natural monopoly; labor, building material, steel are not natural monopolies; they are commodities that move freely in trade, for which there is a well established market, and when labor and material prices advance the products or the results of labor and material expenditures will advance in price; that the same rule would not apply to natural gas resources or to water powers, because if it were applied the public would be deprived of the natural gas resources or the water powers, since it would be charged for their products on the same basis that it would have to be if those resources or reserves were not present at all; that he does not maintain that the public owns the gas; that it emphatically does not own it; that the company owns it; but that the company has a [fol. 719] certain duty to the public on the sale of it; that it is entitled to a reasonable return on its fair value, and that fair value is not measured by the extent to which you can exploit it as compared with the next substitute service; that it is a very difficult matter to determine how to arrive at the fair value; that he has given one method of arriving at it; that he does not think what people would be willing to pay for it would be any measure of arriving at the value unless you knew the circumstances under which they made their estimate and the purposes for which they were going to apply that gas, and whether they would apply it to uses subject to public regulation or not; if he could obtain gas in a certain section of West Virginia and sell it to certain manufacturers who themselves were making huge profits

he would pay more for the gas, but if he chose to dedicate it to the public service he could not capitalize the gas on the basis of what he might make in another field under different conditions; that he would not say that the commission should exclude all elements of competition in arriving at value, but that this should not be accepted as the only measure of value; that it is entitled to some consideration; that there are many factors that affect value, and that [fol. 720] not any one is controlling; that he thinks that elements of value that arise from competitive conditions are to be considered; that there is also the element that the public has to pay the operating expenses under which these leases were acquired and has paid their carrying charges; that is an influence in the other direction; the fact that labor and material prices and commodities generally have advanced in value, that is in favor of an appreciation for gas leases; that it is true that in a purely private business the owner attempts to make his customers pay his running expenses, but that he does not turn around and capitalize against them the product which he has asked them to carry; that the coal business is not a business devoted to the public service like a utility, and that he does not know that the producers of coal have recently received many, many times what they have invested in their property as returns on that investment; that he put in the study in regard to coal prices to show the uncertainty of coal prices and the unreliability of the price of coal as of December 1923 remaining a fair index of coal values for eighteen years in the future; just the opposite conclusion is to be drawn from the situation stated; the coal business is in a lamentable condition because they have been trying to do the very [fol. 721] things that have been here suggested; they have been trying by artificial means, in other words, to lift themselves by their own boot straps; it is a competitive business, and they have tried to take it out of the effect of the laws of supply and demand; that he does not mean that the operators alone have done this, but that the operators, labor unions, and political situations have all brought about an unfortunate situation in the coal business, which is now being corrected, just as those factors have brought about, in a somewhat different way, an unfortunate situation in the agricultural fields of the West; that he filed the statement

in regard to the coal situation to show that the price of coal would not likely remain the same for eighteen years; that he cannot say that Mr. Davis's conclusions should not have any weight; that his study, however, goes to prove that Mr. Davis's conclusions are not entitled to the weight that he thought the commission should give them, because if the commission will consider the conditions prevailing in the coal fields it will not say that a $4 price in Pittsburgh on December 31, 1923, is a fair price upon which to predicate a value for eighteen years in the future; that the [fol. 722] commission could change the rate, however, whenever the price changes; that coal is cheaper today than it was in December 1923; that he has the figures in the Pittsburgh and Cincinnati markets, and the price of coal Mr. Davis used is from 10 to 20 cents a ton less than Mr. Davis testified to; screened gas coal in Pittsburgh, December 31, 1923, was quoted at from $2.40 to $2.60; the price today is $2.30 to $2.50; Pittsburgh gas mine run coal was in December 1923 quoted at $2.20 to $2.30; January 1925 it is quoted at $2 to $2.25; the same condition is true in the spot coal market price, and the same or greater variation—a larger variation—has taken place in the price of Kanawha coal f. o. b. Cincinnati, where, in December 1923, the price was $3.89, and the last quotation he has is October 1924, which was $3.39, while the spot price in that market declined 3 cents. These statistics are taken from the monthly averages of the United States Bureau of Labor Statistics of wholesale prices of coal reported in their bulletins.

That the tendency of coal price is to go lower, but that he thinks the margin of profit is going to be larger; that he has no idea when the decline in the price of coal will stop, [fol. 723] but that the decline in price is not so important a factor; the price will stop going down just as soon as the coal mines will adopt modern machinery and scientific methods, will consolidate their properties, eliminate overhead, eliminate waste and bring about the maximum production in the naturally richest fields; that is what must come about in the coal business to save it, and that is what has been done in every industry that has gone through the period of inflation and deflation since the war; that the Kanawha field is one of the richest coal fields in the country, and if it would get away from the errors he has mentioned

it would become one of the most prosperous fields in the country.

That he is familiar with the conditions in union labor coal fields and those where there is no union labor, and those coal mines which have broken away from old fashioned methods by the use of modern machinery as compared with those that have not. For the last five years, while certain people in the coal trade have been predicting a return to high prices, economic law has relentlessly pushed them down, and until they see the handwriting on the wall and adopt those methods that other industries have there will be no relief in the coal fields. They cannot longer continue that process. If anyone thinks that they [fol. 724] can, look at the strides in the electrical development and the substitution of oil for coal. These enormous changes and development are being stimulated, more or less, by the situation in the coal industry.

That in his opinion there should be allocated to the gasoline business 24.6 per cent. of the property that is used jointly in gas and gasoline operations; that the reason he assigns 50 per cent. of the net proceeds of gasoline to the gas business is because there are many factors in there, the element of profit in the gasoline business after it leaves the jointly used physical property. There have been large joint expenditures through physical facilities and through operating expenses, and I think that a part of this profit should go to the gas department; it should not be served on a cost basis. That the use of 50 per cent. of the net receipts is an arbitrary figure, and that after making a study as fully as he can and recognizing the uncertainty of it, he thinks the profits and the losses should be shared on a fifty-fifty basis; that is what he means to say. That there is invested in the gasoline properties more than $2,700,000.00, and that the gasoline company should be entitled to a fair return on that; that a fair return on that would [fol. 725] be considerably in excess of 8 per cent.; that a return of 10 or 12 per cent. would not be at all an attractive investment over a period of years; that they have had a hard time for the last two years; that he would not know just what a fair return would be; that ordinarily in a business of that kind you would expect it to pay 10 per cent.; that there would have to be provision made for depreciation or amortization or whatever you call it; the invest-

ment would have to be retired over the life; that he does not know how long it has been in service; that if it has eighteen years further to go it might be over a period of twenty five years or more at 3½ or 4 per cent. a year; that he couldn't say whether the gasoline plant would have to be renewed frequently or not; it may; that he does not know just what the details of the property are; that if it is a shorter lived property naturally the rate would have to be higher; the gasoline producing station or manufacturing station would have to be renewed in less than thirty years; that the rate of depreciation on that class of property is rather high; that he thinks 10 per cent. a year for depreciation on it would be rather high; that that is about the rate that is generally allowed in a manufacturing business on [fol. 726] machinery operating under high speed and strain; that you can never have depreciation and amortization both; that your reserve will take care of part of the renewals, and as most of the property, or some parts of it, will probably last the full twenty or twenty five years, whatever the life would be, there your depreciation reserve would restore the capital without any more amortization; as to the rest of it, there would be some overlapping of the two charges; that of course this would have to be taken out before there is any fifty per cent. to divide; that he did not check Mr. Uebelacker's appraisal of the gasoline property, but that he will accept his figure; that assuming that there is $2,700,000.00 worth of property in the gasoline business, and that there was a return from that property of $500,000.00 last year after paying expenses of operation, he would think that after all expenses have been taken care of that the profit resulting from the business from a correctly proportioned analysis should be divided equally between the two departments; what it amounts to in dollars and cents he cannot say; that if there was $512,000.00 last year above expenses, 50 per cent. of that would be $256,000.00, which would be turned over to the gas company, assuming [fol. 727] his figures to be correct, and the gasoline company, out of the remaining half, or $256,000.00, would have to take care of the profit on its investment and amortization and depreciation, and that if the value of the property is $2,700,000.00, $256,000.00 would not be enough to pay a fair return on it and to provide for depreciation of the property; if those are the only factors that enter into it;

that he cannot say what other factors would enter into it, but will check it up and testify further; that on that basis the gasoline company ought to have more than $260,000.00; that it ought to have the depreciation and it ought to have 10 per cent.; that 10 per cent. for the depreciation ought to be taken out of the gasoline company's part of the earnings.

That Mr. Uebelacker's overhead charges are too large; that he never built a plant like the United Fuel Gas Company plant; that he never superintended the construction of a plant like it, but that people in his firm have; that he never kept the account of overhead charges in the construction of a plant like that, but that he has analyzed the cost of construction of a good many and knows what they do amount to; they don't run that high; that the reason he can- [fol. 728] not run as high as Mr. Uebelacker is because he has items of expense in there that the witness thinks on their face are perfectly clear. The item of financing, 4 per cent. financing cost, should be distributed over the period for which the financing was incurred; that if someone has to be hired to sell the securities it has to be paid for, but it should not be charged to the plant; classifications of accounts show that financing is not to be charged to capital, but that it comes out of the rate of return; that what he means is, the company is allowed a rate of return say of 8 per cent.; you are selling some five per cent. bonds in an unfavorable money market; those bonds were sold at 90; that merely is an index and factor of the cost of money; if the bonds had been 6 per cent. instead of 5 the discount would have been less, or might have been wiped out; that he understands Mr. Uebelacker does not say this amount is the discount on the bonds; it is the sales cost; but the sales cost of the securities is the cost to sell them under a proper financial program, which has a definite period, and must be amortized over that period as a part of the money borrowed or money raised; his 4 per cent. is not an unreasonable figure for the cost of financing, but it is an improper [fol. 729] charge to include in capital; that he does not allow it in the annual expense, but says that it should come out of the return; the 8 per cent. return is not included in the operating expenses; that is the amount we are trying to determine after the operating expenses have been left; and just as the company has to pay its interest charges

and a part of its capital out of the 8 per cent. return on its entire property, so it must pay what the financing costs on an issue of twenty or thirty or forty year bonds over the entire life of the financing; it is an expense item and not a capital item; that it should not be, however, included in operating expenses; that it is one of the costs that comes out of the 8 per cent return.

That this is the largest item that Mr. Uebelacker has included that is not correct; that the only other one that he thinks is too high is the interest during construction of 8 per cent.; that he thinks that is too high; that he thinks interest during the period of construction should not be higher than 7 per cent.; that he thinks this company, with these enormously valuable gas reserves, the territory in which it is operating, the business which is available for it, could finance itself on a year-to-year basis with 7 per [fol. 730] cent. money; that he thinks it could do this while it was building the plant; that he does not believe it would cost over 7 per cent. on the money market to finance it; that it must always be explained in the light of the financing, the business conditions at the time, the money market at that time, the form of loan, whether it is a first-mortgage bond, whether it is a note, whether it is a stock sale or whatever it was; that he thinks he could market a 6 per cent. first-mortgage bond at the time he made the inventory on a property that had no plant but was just simply getting ready to put in one on a 7 per cent. basis; that he has no particular plant in mind that was financed on such a basis, but he studies many instances of financing every year and does not recall any specific instances, but is satisfied that 7 per cent. is a fair cost of money for what would be borrowed in the year 1923 market.

That you would not sell an eighteen year bond for the entire value of the plant; the plant is not financed during construction on eighteen year bonds; you finance on temporary borrowings till your plant is up and then you finance with permanent bonds; that the temporary financing should be done on a 7 per cent. basis during the period of construc- [fol. 731] tion; of course, temporary financing costs more than a ten-year basis; that he could get the money on a 7 per cent. basis with all the assets that the company has back of it; that in talking about interest during construc-

tion eighteen years does not apply, but that he does think that an eighteen year bond showing 8 per cent. return would enable you to finance on a basis of 7 per cent., with a one per cent. margin of profit over eighteen years; that he has heard some evidence to the contrary, but when it is analyzed he thinks it will appear that they are talking about something else; that he has not examined Mr. Dickinson's testimony on the subject, but is merely testifying that a 7 per cent. overhead charge is an ample provision for the capital charge.

That those are the only items of overhead charges included by Mr. Uebelacker which he criticizes, that is, the interest during construction and the cost of financing; that he figures overhead charges as follows:

Engineering, both preliminary and during the period of construction, 6½ per cent. I have allowed for engineering more than Mr. Uebelacker has. He has engineering and superintendence ranging from 2½ per cent to 7 per cent., with 3 per cent. in two accounts, 2½ per cent. in one [fol. 732] account and 7 in a fourth. He has preconstruction costs at 2½ per cent.; I am allowing 6½ per cent. on the entire property.

Administrative expense is 2 per cent., same as his; legal expense, 1½ per cent. I have the same figure. Insurance and taxes, one per cent.; interest during construction, 7 per cent., total 18.

Now, these overhead charges must be considered in connection with the direct charges that Mr. Uebelacker has included in his unit costs. He has liability insurance in there on labor at one per cent., loss and use of tools, 1½ to 2 per cent.; field supervision from ½ of 1 per cent. up to 8 per cent.; timekeeping, 1 per cent., contingency from 2 to 5 per cent. On his material he has ½ of 1 per cent. for purchasing, ½ of 1 per cent. to 4 per cent. for warehouses, and his contingencies there range from 2 to 4 per cent. Those are all fair allowances, but on a set up of that kind 18 per cent. for general overhead charges is fair. I am not standing alone on that. Analysis of the decisions of the public service commissions of the appraisals of natural gas properties will show very few instances where they allow over 18 per cent., and a few where they have allowed 17 per [fol. 733] cent. They are not all wrong. The argument

arises how you will divide this. Some of these charges will not be incurred to the extent shown. That is an estimate, but the 18 per cent. is inclusive of all items I have referred to as a general overhead charge.

That such holdings were made in the case of Southern Gas & Electric Company by the Public Service Commission, the Natural Gas Decisions before the California Railroad Commission, the decision of the Oklahoma Corporation Commission in quite a large number of natural gas cases, including the Oklahoma Natural Gas Company, the largest property they had in that state, the decision in Little Rock, Arkansas, and he thinks there are decisions of the Ohio Commission on that; that the commissions in ascertaining these overhead charges based their findings upon the evidence, and the evidence generally shows that a proper allowance for overhead expenses is 17 or 18 per cent; that there is very little evidence that the commission has accepted for larger overheads; that he knows of no case where the commission has allowed more than 18 per cent on the entire property; that he has no doubt that there are some contrary cases, but the general rule is as he has [fol. 734] stated; that there is a good deal of uniformity in this rule; that it differs for different kinds of property; that there is a good deal more overhead on one plant than on another, and it ranges from 18 per cent down to 12; that on property that requires a long period of construction, like a hydro-electric property, the general overhead may run to 25 per cent; that it would not require a long time to construct the United Fuel Gas Company property; that you would put part of it in use while you were constructing the rest; in a hydro-electric plant you can't operate anything until your dam is completed. Here as soon as you bring your plant to Charleston you begin to earn money on a part of it; you go to Huntington and you earn part; you extend your line to Cedarville and you begin to earn some money; that the overhead costs in building transmission lines and work of that sort would be a great deal more than in building a house; that there would probably be a construction period of two years on the largest single factor, and measuring your interest rate on one-half of that period, your interest charge might be 10 per cent, but here is an interest charge on all of the property; Mr. Uebelacker has put 26 per

[fol. 735] cent on transmission property, 21½ per cent on production system; that he agrees that the overhead charges are much higher on transmission, but if you take out the cost of financing and some of the other items there and bring it down to the more general allowance for overhead charges, 18 per cent of the entire property is a fair allowance.

That he has assumed that the plant has a life of 18 years and has to be amortized in that time, either retired, replaced through the depreciation reserve, or amortized; that the company is entitled to the capital back; that if it was all going to last until the end of 18 years it would take one-eighteenth of it each year to get it back, and if there were any replacements of any sort that would be in addition and would require something more than the one-eighteenth; that it would require more than one-eighteenth of the property every year to keep the property up to 100 per cent efficiency and then retire it at the end of eighteen years, because some parts of the property would have a life of less than eighteen years; that he has made no study of the amount necessary for each year; that he has not a copy of the book costs of the property and does not know what they are; that he thinks they are about $26,000,000.00; that there is some [fol. 736] property that could be sold; that is, there would be some salvage; that he does not know just what the testimony is as to that, what the total amount would be that would have to be retired; that he has made no study of the depreciation rate; that he does not know the actual rate that would be necessary for depreciation, but thinks that the rate of 5 1/3 per cent testified to would be ample for the purpose—its own practice indicates what the company thinks of it; that this would be sufficient for the maintenance of the property, and since the large part of the property will be retired through the depreciation reserve there is very little left for any other charge; amortization is not an important factor; that he thinks the depreciation reserve will maintain the integrity of the property very well; that when the eighteen years expire the company will have the property back through the depreciation reserve, except that property which has an unexpired life and represents recent renewals, and will have to have an amortization on that, and that will be a very small amount, because he can't imagine the company making any very large expenditure for plant when

the exhaustion of the field is within two or three years staring it in the face; that it may be that there will have to be expenditures for more compressors, but they are not an en- [fol. 737] tire loss; they can be moved from one place to another; there is a large salvage value in any compressor you put in within two years in the field; that it could be used somewhere else in some other fields or some other lines in the state; that he does not know how many other lines there will be in the state in eighteen years; that compressors are shipped to Oklahoma, Kansas, down in the state of California; that it is just as likely that eighteen years from now there will be further gas reserves found, and that the provisions that have been made for depreciation and amortization will have pretty well retired the plant by that time and still leave the company with property that it can use for five or ten years in the future; that he thinks it is a reasonable assumption that new fields will be discovered; that he has been hearing the same kind of testimony about amortization every time he has been in West Virginia, but he does not see that any recognition is given to it in the rate base on this property; that Mr. Davis says in his report that the life of the field is eighteen years; that the entire set-up of his appraisal is on the basis of eighteen years, and that is the appraisal he is talking about; that is his appraisal of the gas reserves; this is indicated in his Exhibit Z; that [fol. 738] Exhibit Z is a hypothetical exhibit and that that is the report to which he has given all of his attention, and it was also his estimate of the amount of gas which he assumed would come out in eighteen years that Mr. Uebelacker accepted and on which he applies 5 cents per thousand cubic feet for gas underground; that he is not testifying as to the life of eighteen years, but only assuming it, and that he is assuming that they meant what they said; that he is talking about Mr. Davis's Exhibit No. Z, on which he bases his appraisal of $33,000,000.00; that he is appraising the gas underground, which in his large exhibit No. 1 he determines to be the value of the assets that he appraises; that he refers to it in the text of the report as an eighteen year period; that he thinks the theory of the company advanced in this case has some application to a number *number* of years, but that his criticism would be exactly the same no matter whether you have eighteen years or fifteen years, and that

it is stated in the exhibit that it is eighteen years because if you take out the same quantity of gas that was taken out in one year it would take eighteen years, and that his criticism would be just the same if he found 25 years, but that [fol. 739] if he found 25 years the depreciation and amortization charge would be a much lower amount; that whether you accept the estimate of Mr. Davis as eighteen years or twenty years or any other number of years, his criticism would be the same as that embodied in his exhibits, with the exception that in the case of twenty years there is being too much charged in operating expenses for depreciation, and the depleted value of the property would be higher in that event; that one of these items would not offset the other, because there are a good many other factors that come into it; there would be various classes of property that he might say would have a reasonable life of fifteen years that would not have a reasonable life of twenty-five years during the period by which Mr. Davis would extend the life of his field; it might be just that margin that would throw some classes of property from one group into the other, that is, that would have to be renewed during the life of the field and would not have to be renewed; it is not a factor of great consequence, but from a mathematical standpoint it would have that effect; that he has not fixed any life on the field; he is not a geologist in gas matters, but that in former hearings affecting this company eminent geologists have testified to a life of the field very much [fol. 740] shorter than eighteen years; that his exhibits are based on Mr. Davis and Mr. Uebelacker's exhibits, and if they are based on an eighteen-year life his are; that his is a criticism of theirs, and is not an independent valuation; that he based his depreciation on the assumption that they meant eighteen years when they said it; that if the gas field is exhausted in five years the depreciation rate would be a great deal greater; that Mr. Uebelacker has not made any statement as to the life of the field, but he has based his report on Mr. Davis' finding as to the amount of gas in the ground, and Mr. Davis said the gas content would have to be taken over eighteen years.

Redirect examination:

That on the assumption that there was invested in the gasoline plant $2,700,000.00, and it appeared that the earnings on such a capitalization during 1924 amounted to $550,000.00, and for 1923 the net earnings of the same company were $1,868,000.00, and for the same company during the year 1922, $2,200,000.00, and in 1921 $1,999,000.00, and for 1920 $2,640,000.00, he would say that the earnings for 1924 reflected an abnormal condition—that is, they are below the normal established in previous years—[fol. 741] and that if the books of the gasoline company showed net earnings as indicated above, he would say that the condition of the gasoline business during 1924 was abnormal; that the 7 per cent. which he has included in his valuation for interest during construction does not mean 7 per cent. per year, but it seems that all the interest charges, which would only be incurred in providing funds during this period of construction, would aggregate an amount equal to approximately 7 per cent. of the direct labor and material expenditures; it may be that the company would pay eight or nine per cent. for some money; it may be it would pay less than seven per cent. for some money; on part of the expenditures for construction, where the time might extend over two years, since the beginning of the two year construction period would find the company with no cash on hand and no expenditures for the two-year period, consequently the interest rate, whatever that may be, can be computed for one-half only of the time of construction; as to the transmission lines, the construction will undoubtedly be two years; as to the minor accounts, installation of the distribution system and distribution accessories, the construction would be comparatively [fol. 742] short, so that the interest rate would not apply on those classes even for the entire year; seven per cent. would not necessarily mean that the company could not incur more than 7 per cent. cost for financing, because being a series of temporary loans, or possibly one continuous problem for the two-year period, various are provided for.

Recross-examination:

That in the exhibit filed by him with his testimony in regard to gasoline stocks he showed that gasoline stocks were

going down; that he finds that there has been an increase in December of gasoline stocks on hand, as appeared in this morning's paper, which is a reflect of a seasonal condition; the stock of gasoline always increases during the month of December because of the great reduction in the use of motor vehicles as compared to the summer months, and it is during the winter months that the surplus stock must accumulate to take care of the rapidly increasing consumption in the summer months. The conditions there are reflected in the statistics in exhibit No. 8 for 1923, where the monthly data is presented; it is also true in the years 1922 and 1921, for which the monthly statistics, however, are not contained in the exhibit. The increase for Decem- [fol. 743] ber is a normal and natural condition due to seasonal operations, that he does not know that the stock of gasoline in December 1924 was the largest in the history of the business; that he believes it is not the largest in the history of the industry; that it is a relative condition, and assuming that it were the largest in the history of the industry, it could be considered only in relation to the consumption, which is breaking all records in the relationship between the consumption and the stock on hand; that the large amount on hand in December is accounted for by the fact that in the winter there is little consumed and that the stock is saved up for consumption in the summer months, when there is a large consumption; that there was not more consumed in the month of December than during any month in the year; that he has not the consumption for the month of December, and only knows what it was by the newspapers; that the domestic gasoline consumption in November was 695,000,000 gallons; that in July it was 789,000,000 gallons; August was the highest month in the year; November was 695,000,000 gallons, an index number of 243. Now the gasoline stocks during those same months were, in July, 1,470,000,000 gallons as against the November figure [fol. 744] of 1,133,000,000 gallons. The index number for the gasoline stocks in July was 311, compared with an index number of 239 in November. The highest gasoline stocks on hand during 1924 was in June, when the stock was 1,649,000,000 gallons and the index number stood 349; that in January it was 1,200,000,000 gallons, and the index number was 254; that in February it was 1,383,000,000 gallons and the index number 293.

(And the said W. J. Hagenah testified in open court in substance and effect as follows:)

That he has taken Mr. Jirgal's Exhibit No. 6 as to the investment in property of the company from 1909 down to 1923 and reduced or brought it into 1924 dollars, according to the Bureau of Labor index numbers; the index numbers used by him are from the United States Bureau of Labor, taken from its monthly publication known as the Monthly Labor Review; that he has taken the total net additions to the company's properties by years from 1909 to 1923, as set forth in detail in Jirgal Exhibit No. 6, and deducted from these additions the investment each year in gas acreage, and in the third column of the statement shows the physical property additions; that he then shows the [fol. 745] index numbers for the corresponding years as determined by the United States Bureau of Labor, the index number being the one reflecting all commodity prices. Because of the general increase in the level of prices since 1909 and the decrease in purchasing power of the dollar, he converted the dollar expenditures as made by the company as shown on its books for each year from 1909 to 1923 on the basis of the corresponding index number for that year, as compared with the period of par. The total net additions as shown by the company's books in Jirgal Exhibit No. 6 are $26,288,912.00. The acreage acquired, including the acreage in 1909 owned by the company, is $6,343,332.00. Deducting this from the total set forth in the first column shows physical property additions of $19,945,579.00. These are the actual dollars expended by the company based on the purchasing power of those dollars for the years in which the expenditures were made. Applying the index number in detail year by year this $19,945,579.00 is increased in terms of dollars to reflect the same purchasing power based on the index number for 1924 to $24,546,709.00. Adding to that the book cost of the acreage as adjusted and set forth in Jirgal Exhibit No. 6, namely, $6,343,332.00, makes the total $30,889,041.00. That [fol. 746] he has applied this index figure to the reserves as well in the second part of the table; that he shows it both ways, first increasing the physical property to reflect the change in the purchasing power of the dollar, plus the book cost of leases, and second the physical property expendi-

tures, as thus converted, plus the lease investment also converted on the same basis. Applying the same index number, the lease investment is increased to $9,495,920.00, making a total converted on the basis of 1924 dollars of $34,042,229.00. That in this way he has reached what should roughly correspond to a reproduction value of the physical properties of $24,546,000.00; that the figures of both sides show a reproduction cost considerably in excess of this, not less than $29,000,000 and something; that there are two reasons which appear for this difference. In the first place, the index number reflecting the commodity prices is not necessarily the same as the index number of those articles or items of labor and material entering into the cost of gas property. The second explanation is that on the books of the company there appear only the overhead charges actually incurred and charged to plant; whatever overhead charges may have been incurred and charged to operating expenses are not included in the plant account. [fol. 747] In the appraisal or theoretical reproduction of the property allowance has been made for overhead charges, and there he used 18 per cent. and the company used amounts ranging from 21½ to about 26 per cent. on different classes of property. As to labor and material prices, both parties agreed. On the inventory they also agreed, or rather, he checked the inventory. That the difference between the reproduction cost of the physical property as determined by appraisal and converting the property on the basis of the index number is due to the fact that the book cost included only the overhead charges as actually incurred and charged to plant; secondly, there are variations in the index number of those commodities which are important factors in gas properties, and not exactly in the same proportion as the change taking place in all commodities averaged. That his experience leads him to believe that the cost of public utility construction work for both labor and material is somewhat higher than the average of all indexed commodities as reported by the Bureau of Labor. The indexed number of commodities as reported by the United States Government has dropped down below that of public utility property by including many articles which suffered severe deflation following 1920, such as cop- [fol. 748] per, farm products, certain metals, rubber and

some chemicals. On the other hand, to some extent that is offset by the extremely high price level which has obtained for household furnishings, which represents quite a factor in the Government figures, but in general the tendency is the same, the difference being one of degree rather than character; that it is true that the pipe and things of that kind that the public utility purchased have deflated less rapidly than the average; that one of the reasons for this is that the United States Steel price index has not come down as fast because of the accumulated building demand and public utility demand during the war period which has kept up the prices, and the percentage of labor in public utility construction work is a little larger than the average for the raw materials which make up the commodity index.

That his reproduction cost new, exclusive of the leases and also of working capital, is $24,000,000.00.

Cross-examination:

That he checked Mr. Uebelacker's appraisal of the property in detail, and that he is satisfied with it; that he and Mr. Uebelacker differ wholly on depreciation, as he has [fol. 749] heretofore explained, but that this arises not because of any difference in fact, but a difference in theory; that he agreed with Mr. Uebelacker as to depreciation where he thought the inspection method applied, but departed from him in those instances where he thought the life of the property depended on the life of the field; that if he had applied the inspection method that Mr. Uebelacker applied he would have come to the same conclusion, and if Mr. Uebelacker had applied the straight-line method he would have come to the same conclusion as the witness.

C. E. Krebs testified in substance and effect as follows:

That he lives at Charleston, West Virginia, and is a member of the firm of Clark & Krebs; that he is a mining engineer and geologist, and has been engaged in that business for more than thirty years; that he is a graduate of West Virginia University in the year 1894, and for three years thereafter was doing engineering work, construction of railroads and surveys and construction and so forth;

the next few years, up to 1909, he was doing mining engineering and general engineering in the southern part of West Virginia, construction of coal plants, development of coal property, studying the geology and working gener- [fol. 750] ally along the development of the resources of the state; in 1909, until 1915, he was assistant geologist to Dr. I. C. White in making detailed reports on the several counties of West Virginia; that his work consisted principally of the counties in the southern part of the state; in 1909 to 1911 he gathered geological data of the counties of Jackson, Mason & Putnam, and prepared those data in manuscript form, together with maps, and reported the same to Dr. I. C. White, who edited and published the detailed report in book form of these three counties; in 1912 he did the same work for the counties of Cabell, Wayne and Lincoln, and gathered up the manuscript, maps, and so forth, and submitted to Dr. I. C. White, who published in 1913 a report of those three counties; in 1913 he made a detailed study of the geology of Boone county and submitted his maps and manuscript of that county, which was published in book form by Dr. I. C. White; in 1914 he did the geological work of Kanawha county and submitted the maps, report and so forth to Dr. I. C. White, which report has been published; in 1915 he studied the geology and resources of Raleigh and part of Summers and part of Mercer, the report being published in 1916 by Dr. I. C. White; during that time his work also took him throughout [fol. 751] the state, gathering data on oil and gas for the map of West Virginia published by the Geological Survey, which data were submitted to Dr. I. C. White and later published, and ever since 1916 he has been doing geological work and mining engineering up to the present time; that work has taken him over the entire state of West Virginia, also in the states of Ohio, Kentucky, Texas, Arkansas and several of the western states; that the Dr. I. C. White referred to by him is state geologist of West Virginia, and that he is one of his assistants; that the investigations he made covered the oil and gas business as well as the coal business.

That he is familiar in a general way with the properties owned by the United Fuel Gas Company; that he has studied the geology of the counties named above where the

United Fuel Gas Company properties are located; that he has also gathered the data in regard to the oil and gas wells; then he has studied the oil and gas data on adjacent properties in other counties, like Roane, and in Kentucky; that he has come in contact in his investigations with the matter of the extraction of gasoline from natural gas and has had occasion to consider and report on the value of [fol. 752] such extraction privilege; that in his investigations there have come to his attention cases of the sale of the extraction privilege of natural gas, and that in these observations he was representing clients; that the conditions in regard to the sale of this privilege usually arise or are involved where the company having the gas will furnish it to another company, an operating company, which extracts this gasoline for a percentage of the gasoline, or, in other words, on a royalty basis, whereby a portion of this royalty goes to the company operating the gas wells or furnishing the gas and the remaining part goes to the company taking out the gasoline; that he usually figures on a royalty basis from a certain percentage of the gasoline extracted; that one company he has been doing considerable consulting work for is the Hope Engineering and Supply Company, of Mount Vernon, Ohio; it furnishes the machinery and will extract the gasoline for a certain percentage of the gasoline, or it will furnish the machinery and the owner of the gas pay for it, and it will look after the extraction for a certain percentage; that within the last week he had a client who asked him to get up figures on the extraction of gasoline from gas property, and he has a bona [fol. 753] fide offer in regard to the extraction of gasoline from a responsible bidder who agrees to furnish all the machinery and the expense of operating the same for a fixed royalty; that he does not now recall any other contracts; that in the last proposition mentioned by him there is involved about ten million cubic feet of gas per day; that the larger the quantity of gas involved the more valuable would be the privilege; that the value of this privilege would be more for the extraction of gasoline where a company had say 100 million cubic feet per day than where a company had only 50 million cubic feet a day; that this is because of the overhead expense, for one thing, all things being equal, and also it would give you a better chance in

the market for marketing the gas and also keep the running expenses lower than it would be with smaller production; that he knows the location of some of the gasoline plants of the Virginian Gasoline & Oil Company; that he thinks there are five or six plants; that they are located at convenient places along the railroad; that in the case of the ten million feet a day proposition above referred to by him, the contract or proposition is that his client furnishes the gas at some convenient point along the railroad and the [fol. 754] contractor agrees to construct the plant at his own expense, operate the plant at his own expense and market the gasoline, paying his client as a royalty one-third of the gross amount of gasoline produced, and placing this gasoline in tanks ready to be loaded on the railroad cars for the market; that from his experience and the study of the question and what he knows of the conditions appearing in the field, he would say that the value of the extraction privilege of the gasoline from the gas of the United Fuel Gas Company, it appearing that it sold about 47 billion cubic feet of gas in 1923, would be at least fifty per cent. of the net profits from the sale of the gasoline.

Cross-examination:

That the customary way of making such arrangements is for a royalty on the production produced; that he knew of one case where a royalty of one-third was provided for; that he has known of other cases where the work was done on a royalty; that where that is done it is sold on the same basis as oil, on a royalty basis, where they agree to put the oil in tanks for market on the same basis, except that the manufacturer sells the whole product and the owner of the gas gets his share of the proceeds; that he has known [fol. 755] of different royalties being paid on that basis; that he has known of royalties of one-fourth, of one-third, and that he has known where the royalties were one-eighth; that he thinks that the man who took it on a one-third royalty made a good contract for himself probably as well as for witness's client, particularly good for his client; that he understands the Virginian Gasoline & Oil Company has six or seven gasoline plants; that if they have twelve he is not acquainted with all of them; that he is acquainted with the Hope Engineering & Supply Company; that it

made a contract with the Charleston Dunbar Natural Gas Company for the extraction of gasoline through a subsidiary; that this contract was on the fifty-fifty basis he has spoken of, and that the subsidiary which made the contract failed, but that that wasn't necessarily the cause of the failure; there were other conditions besides the contract that entered into it; that at any rate it went into the hands of a receiver.

Redirect examination:

That the fact that there is a normal and steady supply of gas has something to do with the value of the privilege of extracting the gasoline; that he understood from knowledge that the gasoline contract had nothing to do with the [fol. 756] breaking of the Hope Engineering & Supply Company's subsidiary.

Recross-examination:

That if the larger supply of gas came when there was the lowest demand for gasoline, that condition would be taken into consideration; however, there are times when prices of gasoline are a little lower than at other times, but the larger amount would more than offset the difference in prices; that even though there might be three times as much gas delivered on some days as on others the value of the privilege might not be affected; this variation might be overcome by the large amount; that in case you had 47 billion cubic feet during the year and that was delivered at a uniform rate a day the privilege might be worth a little more than if it was delivered three times as much in December as in July, but the larger amount would not make enough difference to make it very essential in a contract; that it would be more valuable to have the amount regular; that the United Fuel Gas Company is in a business that makes the demand upon it very much larger in the winter than in the summer months, and its gas deliveries are approximately three times in the winter what they are in the summer; that assuming that the cost of the installa- [fol. 757] tion of sufficient compressors to compress the gas of the quantity that the United Fuel Gas Company puts through its lines each year were $2,700,000.00, and assuming that fifty per cent. of the profits of the gasoline say

for the year 1919 was 146 per cent., 1920, 140 per cent.; 1921, 100 per cent.; 1922, 102 per cent.; 1923, 80 per cent., he thinks legitimate capital could be obtained to pay the United Fuel Gas Company fifty per cent. of the net earnings as a consideration for the privilege of extracting gasoline from the gas that it puts through its mains; that he would like to have the privilege of having a contract like that, or having it financed by some of his clients, which could be easily done; that he thinks it could be obtained at a higher rate; that he would not like to state just the amount until he had gone into it further, but he would say that he could get more than fifty per cent.

STIPULATION RE STATEMENT OF EVIDENCE AND EXHIBITS

The undersigned, representing the parties to the above-entitled cause, here stipulate that the foregoing contains an accurate narrative of the evidence introduced upon the hearing of this cause, together with the exhibits and docu- [fol. 758] ments referred to and filed by the witnesses in so far as the same are material to the determination of the questions arising herein.

Harold A. Ritz, Attorney for Plaintiff. Howard B. Lee, Atty. Gen.; Fred M. Livezey, Paul W. Scott, George S. Wallace, Arthur G. Stone, Robert S. Spilman, Attorneys for Defendants and Intervenors.

ORDER SETTLING STATEMENT OF EVIDENCE

The foregoing narrative of the evidence having been prepared by counsel for the appellant, and notice thereof having been given to counsel for appellees, and no objections being made or amendments proposed, and it appearing to be true, complete and properly prepared, it is now approved by the Court and ordered filed in the clerk's office, [fol. 759] to become a part of the record in this case for the purpose of appeal.

Given under our hands this 5th day of June, 1926.

John C. Rose, Circuit Judge. Henry C. McDowell, District Judge. Geo. W. McClintic, District Judge.

VALUATION

UNITED FUEL GAS COMPANY
INCORPORATED

DECEMBER 31, 1923

UEBELACHER EXHIBIT NO. 1

FORD, BACON & DAVIS
INCORPORATED
ENGINEERS

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VALUATION

UNITED FUEL GAS COMPANY
INCORPORATED

DECEMBER 31, 1923

UEBELACHER EXHIBIT NO. 1

FORD, BACON & DAVIS
INCORPORATED
ENGINEERS

LETTER OF TRANSMITTAL

(Signed Copy)

FORD, BACON & DAVIS
Incorporated

ENGINEERS

Valuations Reports Construction Management

115 Broadway

New York, May 26, 1924.

United Fuel Gas Company, Incorporated,
Charleston, W. Va.

Dear Sirs:

We hand you herewith our report upon the valuation of the physical property, natural gas rights and leaseholds of the United Fuel Gas Company, Inc., and its subsidiaries, Warfield Natural Gas Company and Cabin Creek Gas Company, existing December 31, 1923.

Very truly yours,

FORD, BACON & DAVIS, INC.

REPORT.

VALUATION

UNITED FUEL GAS COMPANY

Incorporated

DECEMBER 31, 1923

Scope of Report

This report covers an inventory and examination, as of December 31, 1923, of the physical property of the United Fuel Gas Company, Inc. The inventory was prepared in part from the books of the Company and in part by actual count in the field. The examination of the property in the field, together with other exhaustive checks applied, provided a complete verification of the entire inventory and a basis for the determination of the amount of deterioration existing in the component parts of the units of physical property.

A complete description of the work is contained in the following paragraphs under the several major property headings.

Based upon the inventory, as verified, estimates have been made of the costs of reproduction new and less observed deterioration of the physical property as of December 31, 1923, using prices of labor and materials current in the territory served on or about that date.

In addition to the above referred to estimates, based upon the physical property, an estimate was made of the value of the leaseholds and natural gas rights held by the Company at the date of the valuation. For this purpose and as a basis the estimates of recoverable gas remaining in the proven and probably productive territory were used as reported upon by Mr. Ralph E. Davis. The leaseholds to which no gas content was assigned by Mr. Davis

were priced at present day cost of acquisition by the Company.

A description of the principle involved and the computations in detail are contained in the following paragraphs under the heading "Leaseholds and Natural Gas Rights".

No attempt has been made to verify the Company's legal title to any of the property included in the inventory, nor has there been any effort made to search for property which was not designated as owned by the Company.

In the statements appended to this report the priced inventory is summarized in accordance with "A Uniform Classification of Accounts for Natural Gas Utilities prescribed by The Public Service Commission of West Virginia." The details of the priced inventories going to make up the totals appearing in these summaries and statements are included in additional volumes forming an integral part of this report. These volumes are entitled respectively:

Inventory of Production System Property
Inventory of Transmission System Property
Inventory of Distribution System Property
Inventory of General Property

The property as it is physically located in West Virginia, Kentucky and Ohio is segregated in these inventories.

The properties of the Cabin Creek Gas Company in the Kanawha Field, West Virginia, and the properties of the Warfield Natural Gas Company in Kentucky, which are each owned entirely by the United Fuel Gas Company, are shown separately in the inventories. The total values have been included in the summaries as though the three were one company.

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Nature of Business and Territory Served

The United Fuel Gas Company, Inc., is engaged in the production, transportation and distribution of natural gas. Its production operations are carried on in what are known as the Spencer, Clendenin, Kanawha, and Triple State (Kermit) Fields. These fields are located generally in Jackson, Roane, Clay, Kanawha, and Mingo Counties in West Virginia, and Martin County in Kentucky.

It owns a few leaseholds, wells and pipe lines in the Counties of Wayne, Logan, Lincoln and Boone in West Virginia which are of minor importance since comparatively small quantities of gas are now procurable in these fields.

Gas from the several fields is transmitted for distribution in various towns in West Virginia in the territory extending from the producing fields in the most easterly counties to the western boundary of the State; also to towns along the northern and eastern border of Kentucky and the southern border of Ohio extending as far South as Williamson, W. Va., and as far North and West as Portsmouth, Ohio. The Company also supplies gas to the following companies in wholesale quantities.

Customer	Point of Delivery
Columbia Gas & Electric Co.	Ralls Gap, Calhoun County, W. Va.
Ohio Fuel Supply Co.	Ravenswood, Jackson County, W. Va. (at the Ohio River)
Hope Natural Gas Co.	Cedarville, Gilmer County, W. Va.
Pittsburgh & West Virginia Gas Co.	Cedarville, Gilmer County, W. Va.
Central Kentucky Natural Gas Co.	Inez, Martin County, Ky.
Louisville Gas and Electric Co.	Inez, Martin County, Ky.
Portsmouth Gas Company	Portsmouth, Ohio.

In addition to the above companies, several small distributing companies are supplied with gas at city gates.

The following is a list of the towns in which the Company distributes natural gas in its own distribution systems:

United Fuel Gas Company, Inc.

Towns Served

West Virginia

Amma	Fort Gay	Nitro
Bannister	Gandeeville	Ona
Barboursville	Gay	Poca
Big Creek	Greyeagle	Quick
Big Sandy	Hunt	Ravenswood
Blue Creek	Huntington (Part)	Reedy
Buff Lick	Hurricane	Rich Creek
Cedarville	Jordan Creek	Ripley
Cerrado	Kanawha City	Sandyville
Charleston	Kenova	Silverton
Chelyan	Kermit	Sissonville
Cherry Tree Bottom	King	South Charleston
Clendenin	Kyger	Spencer
Coalburg	Lock Seven	Stoffel
Culloden	Logan	Three Mile
Eastbank	McClanahan	Walgrove
East Lynn	Milliken	Walton
Elkview	Newton	Williamson

Kentucky

Ashland	Chinnville	Louisa
Buchanan	Greenup	Russell
Burnaugh	Himlerville	Warfield
Catlettsburg	Inez	Wolf Creek

Ohio

Bradrick	Corryville	Portsmouth (Part)
Chesapeake	Ironton	Proctorville
Coal Grove	New Boston	Wheelersburg

The following tabulations set forth the total quantities

of gas sold in the Company's distribution plants and at wholesale points for the years ended December 31, 1914, to December 31, 1923:

Statement of Gas Sold—Total M c. f.

Year	Total Gas Sold	Gas Sold in Company's Distribution Plants	Gas Sold Wholesale	Other Main Line Sales	Gas Sold in Field
1914	29,283,145	11,560,164	16,118,993	116,174	1,487,814
1915	29,594,673	11,517,109	17,217,227	179,079	681,258
1916	39,290,446	14,697,325	24,042,967	126,259	423,895
1917	60,610,866	17,546,384	41,217,295	918,127	929,060
1918	57,035,146	14,235,708	40,338,657	1,765,691	695,090
1919	52,186,998	13,091,485	36,328,136	1,558,245	1,209,132
1920	52,509,210	16,417,968	32,919,420	1,865,618	1,306,204
1921	42,669,113	12,220,505	28,836,523	565,067	1,047,018
1922	47,625,222	13,051,244	31,994,593	1,121,008	1,458,377
1923	47,040,235	14,127,617	30,066,171(A)	1,462,340	1,384,107

Note: (A) Companies—Columbia Gas & Electric Co., Ohio Fuel Supply Co., Hope Natural Gas Co., Pittsburgh & West Virginia Gas Co., Central Kentucky Natural Gas Co., Louisville Gas & Electric Co., Portsmouth Gas Co., Montgomery Gas Co., and sundry smaller companies.

Statement of Gas Sold—Distribution Plants by States

Gas Sold in Company Distribution Plants

Year	Total	W. Va.	Kentucky	Ohio
1914	11,560,164	5,080,153	2,564,830	3,915,181
1915	11,517,109	5,124,292	1,229,827	5,162,990
1916	14,697,325	6,493,895	1,490,506	6,712,924
1917	17,546,384	8,702,317	2,412,701	6,431,366
1918	14,235,708	9,851,204	1,976,815	2,407,689
1919	13,091,485	9,987,204	1,841,294	1,262,987
1920	16,417,968	11,454,063	2,300,789	2,663,116
1921	12,220,505	9,428,874	1,366,660	1,424,971
1922	13,051,244	9,288,725	1,569,993	2,192,526
1923	14,127,617	10,593,248	1,975,715	1,558,654

The Company purchases a portion of the gas which it sells from various independent producers located in the fields. The following table shows that the Company has purchased an average of 21.60 per cent of its sales during the ten year period ended December 31, 1923:

A Statement of Gas Produced, Purchased and Sold

Year Ended Dec. 31	Gas Produced (M. c. f.)	Gas Purchased (M. c. f.)	Total Sales (M. c. f.)
1914	21,047,162	8,235,983	29,283,145
1915	19,578,870	10,015,803	29,594,673
1916	28,904,224	10,386,222	39,290,446
1917	48,921,616	11,689,250	60,610,866
1918	45,985,640	11,049,506	57,035,146
1919	42,235,495	9,951,503	52,186,998
1920	43,734,217	8,774,993	52,509,210
1921	33,464,075	9,205,038	42,669,113
1922	37,721,087	9,904,135	47,625,222
1923	37,370,482	9,669,753	47,040,235

Description of Physical Property as Existing December 31, 1923

The United Fuel Gas Company controls by lease 814,911 acres of land for the production of natural gas. Based upon the report of Mr. Davis this acreage may be classified as follows:

Proven Productive	136,384 acres
Probably Productive	126,208 "
Unproven	552,319 "

The Company has a total of 789.7 productive wells located in the proven territory. This number of wells, segregated by major fields in which they are located, with average depths shown, is as follows:

Fields	Number of Productive Wells	Average Depth in Feet
Spencer	222.2	2,280
Clendenin	435.5	1,805
Kanawha	63	2,200
Triple State (Kermit):		
West Virginia	25	1,775
Kentucky	44	1,367

These wells are connected to a general system of field lines ranging in size from 2 in. to 20 in. and totaling approximately 583 miles in length. The pipe in the transmission system transporting the gas to the various points of delivery, both wholesale and for distribution, ranges in size from 2 in. to 20 in. and totals approximately 540 miles in length. The Company owns and operates 13 compressing stations with a total of 34,505 horsepower in this transmission system. The following table gives the name, location and horsepower capacity of these stations:

West Virginia

Name of Station	Location	(Horsepower) Capacity
Buff Lick	Kanawha County	3,305
Cobb	Kanawha County	8,460
Frozen Camp	Jackson County	90
Goad	Roane County	700
Kanawha	Kanawha County	6,790
Kermit	Mingo County	2,200
Mammoth—Sunday Creek	Kanawha County	960
Porter	Clay County	600
Spencer	Roane County	5,065
Walgrove	Kanawha County	5,065
Ward	Roane County	90
Total West Virginia		33,325

Kentucky

Name of Station	Location	(Horsepower) Capacity
Hale	Martin County	200
Walbridge	Lawrence County	980
Total Kentucky		1,180
Total		34,505

The Company has 531 miles of pipe lines in its several distribution plants, varying in size from 2 in. to 16 in. in diameter. There are approximately 45,000 meters installed in these plants and for the sale of gas to retail consumers throughout its system.

Measuring stations owned wholly by the Company or jointly with the purchasing company are located at the points at which the Company delivers gas to its wholesale customers. The larger of these stations are located at Balls Gap for the delivery of gas to the Columbia Gas & Electric Co.; at Ravenswood for the delivery of gas to the Ohio Fuel Supply Co., and at Cedarville for the delivery of gas to the Hope Natural Gas Co. and the Pittsburgh & West Virginia Gas Co.

The Company owns and operates an extensive system of telephone and telegraph lines, approximately 321 miles in length, which connects its offices with the various compression stations, measuring stations, and important points in the field.

The Company owns motor trucks and passenger automobiles which it uses principally in the distribution plants. It owns also draft horses, saddle horses, wagons and miscellaneous stable equipment which it uses in conducting field operations.

It has 14 drilling and 13 cleaning-out tool strings used in drilling new wells and maintaining existing wells in proper operating condition. Shops and warehouses are

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located at convenient points in the several fields and distribution plants.

The main office of the Company is located in Charleston, W. Va., where a three-story modern type office building is occupied. Field offices are located in the several fields, and a general office for the western division of the property is located at Huntington, W. Va.

A map, attached hereto, shows the location of the principal fields, transmission systems, compressing stations, measuring stations and distribution plants.

Summary of Valuation

Following is a condensed summary of the valuation of the physical property, including leaseholds and natural gas rights:

United Fuel Gas Company, Inc.

Condensed Summary of Valuation of Property as Existing December 31, 1923.

General Summary of All Property.

Classification	Estimated Cost of Reproduction December 31, 1923 New	Less Observed Deterioration
Production System	$49,023,964	$44,279,576
Transmission System	13,467,823	11,154,326
Distribution System	3,269,363	2,694,806
General Property	679,140	594,742
Total	$66,440,290	$58,723,450
General Overhead Charges	7,063,311	6,357,046
Working Capital, including material and supplies	990,000	990,000
Total	$74,493,601	$66,070,496

The above estimates do not include any allowances for going concern value, franchise value, earning power, consolidation or developmental value, losses from early operation, or similar intangible elements of value.

The fact that no amount has been included for going concern in particular does not imply that such value is non-existent. In the case of the United Fuel Gas Company, its favorable position in producing fields where it controls large blocks of gas producing leases not subject to competitive drilling or exhaustion, enables it to secure gas at comparative low costs, thus justifying an unusually large amount of going concern value. However, as this value cannot be arithmetically computed it has not been included as a part of this valuation of physical property.

Inventory and Prices

As stated in the earlier paragraphs of this report, the inventory was prepared in part by the Company's forces under instructions from and supervision by Ford, Bacon & Davis, Inc. In the case of the compressing station equipment and of the majority of structures, an actual physical inventory in the field was made by engineers of Ford, Bacon & Davis, Inc. The verification of the inventories covered approximately 65 per cent of the total valuation and warranted the acceptance of them as practically correct.

In compiling unit prices, the general practices of the Company as to construction procedure and organization of crews for the prosecution of the work were adhered to wherever possible. Rates of labor and prices of materials actually being paid by the Company were used as a basis in the computation of unit prices.

Land

The Company prepared from its deeds a list of the parcels of land owned in fee and held for use other than

the production of gas. The larger parcels on this list were appraised by local real estate appraisers as to their value as of December, 1923. These appraisals, together with the book cost of the parcels which were not appraised, form the basis of the account "Land" in the summaries. The smaller parcels which it was not considered necessary to appraise are used as regulator sites and their value is nominal. No attempt was made to search the title or otherwise prove the ownership of any parcel of land. No observed deterioration has been computed upon land values.

Rights of Way

The cost of the rights of way has been included at the amount shown to have been paid for it in the Company's records for the years 1911 to 1923. The rights of way expense has been computed by applying a factor to the yearly expenditure for this expense as shown by the books of the Company for the years 1911 to 1923. The factor was arrived at by the consideration of the increase in the salaries and expenses of the employees securing rights of way.

Buildings and Structures

An inventory was prepared by the Company, giving the general size and description of each building owned, except the buildings in the compressing station plants used to house the compressing station machinery, and the general office buildings in Charleston and Huntington. The field forces made an actual physical inventory of all the compressing station buildings and accessory structures and buildings located at the compressing stations; the general office buildings and shops in Charleston and Huntington, and the principal warehouse buildings and measuring station structures located throughout the system.

This actual inventory included many regulator houses, dwellings, and such miscellaneous structures located in the larger distribution plants.

The unit prices, using rates for labor and materials at the several locations in which the buildings are located, were built up for each type of construction. Where the Company possessed a number of buildings which could be classified as being similar in construction, the cost of a typical structure was computed and this price applied to all buildings in that class. Otherwise each building was priced in detail.

The structures seen were carefully examined for the determination of condition, and all structures of a similar type of construction which were not seen were given the same condition as the average condition of the number of that type which were examined.

Gas Wells

The inventory of producing wells was prepared from the Company's records and was checked against every available record in the Company's possession. The inventory and subsidiary data showed for each well the location, date of completion, depth, sand, drilling cost and material content and cost. One check of the inventory of wells was afforded by a comparison with the records compiled and verified in the field by Mr. Davis in the preparation of his report. The result of the several checks was to verify the records of producing wells which are included in the inventory.

The actual cost for drilling, labor, teaming, freight, rig charges, and miscellaneous costs were analyzed in detail for a group of representative wells drilled each year in each field from 1913 to 1923 inclusive. This group of wells included

5	Drilled	each	year	in	the	Clendenin Field
3	"	"	"	"	"	Spencer "
2	"	"	"	"	"	Kanawha "
2	"	"	"	"	"	Triple State (Kermit) Field

The unit cost per foot was arrived at for each well drilled each year and to the average cost per foot each year a factor was applied which brought that cost to a December, 1923, basis. This factor was obtained by analyzing each item of cost to show the labor rates for each occupation and to show the actual costs of materials which went into the construction of the rigs and into the cost of drilling the wells. The relation therefore of each of these basic costs or rates to the 1923 basic costs or rates was weighted in accordance with the value of each in the assembled cost per foot in arriving at the factor. A verification of the results obtained was furnished by the fact that they checked the prices charged by independent drilling contractors in each of the fields.

The material prices used in pricing the casing and tubing and shutting in equipment at each well were computed from actual quoted prices of representative manufacturers to cover large purchases.

An allowance of 10.4 per cent was made for dry holes, which percentage was determined from a study of the drilling operations of the Company extending over a period of more than 12 years.

The deteriorated condition of the wells was determined separately for the "Gas Well Construction" account and for the "Gas Well Equipment" account. With reference to the first it was taken as a reasonable assumption that the wells were in a condition of depletion as was indicated by the decline in rock pressure. Based upon the records of this decline as compiled by Mr. Davis it was found that the average rock pressure of active wells had de-

clined 54 per cent from the original to the latest measurement.

The "Gas Well Construction" account is therefore taken to be in a condition of 46 per cent of new cost.

With reference to the account "Gas Well Equipment", it was found from study of past operations that the Company recovered approximately 85 per cent of the equipment in the well, the recovered material being in about 80 per cent condition. An amount representing this loss in use was deducted from the estimated cost of reproduction new in arriving at the deteriorated value of the account. Weighting the conditions of the two accounts results in the deteriorated condition of the present wells of 52 per cent.

Field Lines

The inventory of field line equipment was prepared from the Company's books and checked in several ways. The engineering records in the form of maps compiled from surveys made at the time of installation or at some subsequent period for mapping purposes, were used as a basis and the inventory was found to agree in practically all cases. In the few cases where differences did exist, it was because some information going to the Engineering Department had not been as complete as that received by the Accounting Department. It is the Company's practice to issue a completion notice for each pipe line constructed or changed, copies of which go to the Engineering Department, which in turn forwards a copy, after the job has been checked, to the Accounting Department. The Accounting Department however, has the additional check afforded by its warehouse transfer which it must receive on every job.

Another check is found in the fact that each well is connected to the system by lines which take the gathering

system letter and the well number. These records were also found to be in agreement.

Additional check was furnished by the inspection for condition of the lines in place, which was actually made in the field and which disclosed no inaccuracies in the records.

The prices used in the accounts—Field Line Construction and Equipment—were built up to conform with conditions which actually exist as to employment of labor, hauling of materials, clearing of right of way, size of gang and organization used by the Company, and similar problems met in construction work of this kind. Labor rates paid by the Company are the bases in every instance and the material prices were obtained from actual quoted prices by representative concerns for purchases of pipe in large quantities.

From records of actual installation a percentage was developed to cover the cost of fittings installed in the lines.

A percentage representing the accrued deterioration of the lines was arrived at by actual observation of the pipe in place at points uncovered for the purpose.

Transmission Lines

The inventory of transmission lines was prepared from the records of the Company in the same manner as in the case of Field Lines and was subjected to similar checks through the engineering records and through field inspection. Approximately 32 miles of the larger lines were actually measured by chaining and the measurements made were found to compare exactly with the inventory maps of the Engineering Department made by survey at the time the line was laid or at a subsequent date when the lines were inventoried for map making purposes.

The cost of installation was built up to conform with

the actual practice of the Company as described under the heading, Field Lines.

The prices of materials were obtained from the actual quoted prices by representative manufacturers for purchases in large quantities. The percentage of fittings was developed from a study of the fittings installed in the lines as obtained from the records of the Company. A percentage representing the observed deterioration was arrived at from the actual inspection of pipe in place. This inspection covered every section of the system and is considered representative of all the lines in the Transmission System.

Distribution Lines.

The inventory of distribution lines was prepared in the same general manner as was described under the heading of field lines and transmission lines. In this case, however, it was set up by Distribution Plants.

The unit prices of labor and materials were developed in the same manner as has been described for field and transmission lines. The allowance for fittings in place was determined from the study of the Company's records of fittings installed in distribution plants.

The deterioration was determined in the same manner as for transmission and distribution lines, i. e., from actual observation of pipe in place at points uncovered for the purpose of the inspection.

Lines in General

With reference to pipe lines in general it has been considered that all pipe is steel pipe. It is known that undoubtedly some of the older pipe is wrought iron, as it has been in service for a great many years. However, the records are not clear enough to permit an accurate determination of how much of the pipe is wrought iron and

how much is steel. For this reason it has all been considered steel pipe.

All of the lines are considered as trenched and as having been laid under large gang conditions, due consideration being given to the variations in construction and hauling conditions in the several systems going to make up the property.

Compressing Station Equipment

Detailed inventories were made by engineers of Ford, Bacon & Davis, Inc., of each of the compressing stations owned by the Company. Unit prices applicable to the units of the equipment such as gas compressors, air compressors, motors, pumps, and generators were obtained from the various manufacturers. The installation costs, including haulage and installation of the compressing units, foundation work and pipe installation were developed from time studies and similar data peculiar to the construction of each station as obtained from the Company's field forces and from records in its possession.

A careful inspection was made of each engine in operation. This, together with a review of all the records of past operation of the engines and of the records pertaining to maintenance and general upkeep of the units, formed the basis for the derivation of a percentage which represents the observed deterioration of the equipment in place. This percentage was determined separately for the major units, auxiliary equipment, pipe and fittings, and miscellaneous equipment.

Measuring Station Equipment

The Company prepared an inventory of the measuring station equipment such as orifice meters and Pitot tubes through which it measures gas sold and purchased. Several of these larger installations were inspected in place

and a detailed inventory made. Based upon these field inventories and upon analysis of the book costs of a large number of installations, several unit prices were developed which covered the groups into which it was possible to place the various meters shown in the inventories. The prices for meters were obtained from the manufacturers of the equipment and labor prices are those current in the location where installed.

The inspection of the installations in place was the basis for determining a percentage which represents the accrued deterioration of the equipment.

Meters and Services

Inventories of meters and services were prepared from the books and records of the Company as of December 31, 1923. Due to practical limitations no field verification of these inventories was made. They were, however, carefully investigated and checked by comparison with the number of consumers.

The prices were obtained from the manufacturers of the different types of meters, and the cost of installation of the meters and services were developed from actual performances and analyses of a large number of recent installations made by the Company.

The percentage representing the deterioration existing was determined from the records of the Company as to meter replacements and maintenance.

Drilling and Cleaning Equipment

The inventory of well drilling and cleaning equipment was prepared from the Company's books and verified by field inspection of several of the strings of tools.

The unit prices were obtained from local dealers in West Virginia.

The deteriorated condition was determined from the in-

spection of the equipment in the field and from the nature and use to which the equipment is adapted.

Telephone and Telegraph Equipment

The inventory of telephone and telegraph equipment was prepared from the Company's records in considerable detail by lines. These various lines were checked up in every manner available principally through comparison with Engineering Department records, with records of employes in the Pressure Department and by actual field inspection and count of certain sections.

The prices of materials were obtained from manufacturers. The installation costs were determined from actual conditions and by using actual rates for labor prevailing in the territory in which the lines are located. From the inspection of the lines in place a percentage representing the accrued deterioration was determined.

General Equipment

This group includes shop equipment, office equipment, garage equipment, stable equipment, general tools and implements. The Company prepared inventories of each of these accounts which were in turn verified by field inspection. The unit prices were obtained from representative manufacturers for each item. From the field inspection a percentage was arrived at representing the observed deterioration of the equipment.

Direct Overheads

In building up unit prices for the installation of pipe lines, compressing stations, meters and, in fact, in the acquisition of all materials, an allowance was made to cover certain direct overheads which are part of the direct cost of the property in place.

Based upon labor in all installations, an allowance was made for liability insurance at 1 per cent, loss and use of tools from 1 ½ to 2 per cent, field supervision from ½ of 1 per cent in the case of miscellaneous structures to 8 per cent in the installation of compressing station equipment, timekeeping at 1 per cent on pipe lines and miscellaneous structures, and contingencies from 2 per cent in the case of compressing stations and the smaller miscellaneous accounts to 4 and 5 per cent in the case of gathering, transmission and distribution lines.

On materials, these direct overheads are ½ of 1 per cent for purchasing, from ½ to 4 per cent for warehouse handling and from 2 to 5 per cent for contingencies.

A fee or contractor's profit of 10 per cent was allowed on the cost of all buildings and structures. The contingencies cover unforeseen costs in construction and such other costs as are not apparent in completed construction.

These percentage allowances were determined from a study of the records of the Company in actual installations and from similar experience of other companies.

General Overheads

General overhead charges on construction are classified as engineering and superintendence, administration expense during construction, interest during construction, preconstruction costs, legal expenses during construction, insurance and taxes during construction and the cost of financing. These overhead charges are unavoidable in the construction of a property and are as directly a part of its cost as are materials and construction labor. The following tabulation shows the construction overheads which have been estimated to apply in the construction of this property:

	Production System	Transmission System	Distribution System	General Property
Engineering and Superintendence	2 1/2%	7%	3%	3%
Administration	2	2	2	2
Interest	8	8	8	8
Preconstruction Costs	2 1/2	2 1/2	2 1/2	2 1/2
Legal Expenses	1 1/2	1 1/2	1 1/2	1 1/2
Insurance and Taxes	1	1	1	1
Cost of Financing	4	4	4	4
Total	21 1/2%	26%	22%	22%

Engineering work during construction may be conducted by a department organized for this purpose or by the employment of an established engineering organization, the cost for comparable results being about the same. Included in this expense are the cost of preparation of specifications, the review of bids for construction, checking contractors' estimates, geological work, general supervision of construction, laying out of the lines, and mapping of the system. All of this would extend over a construction period of not less than two years during which entire period this expense would be incurred.

The construction of a property of this size, involving a large expenditure of money in a period of two years' time, would require the organization of a comprehensive administrative force. This organization would form the nucleus of the permanent operating force but during the construction period the greater part of its time would be devoted to the construction operations.

Interest during construction has been allowed at the current rate of 8 per cent per annum. The money would be required on an expense basis for a period representing at least one-half of the construction period of two years. This rate of interest is taken as being the current rate at

this time at which such a large sum of money could be readily acquired.

Preconstruction costs are those necessary for the development or promotion of the enterprise and include service and expense of organizers and promoters, preliminary surveys and reports, charter expenses, legal and technical expenses pertaining to the advisability of the proposition and its creation as a corporate entity, all incurred prior to the starting of construction; the preparation of prospectuses and interest on these expenditures during a preconstruction period.

Legal expenses during construction include such items as fees and expenses of general counsel and local attorneys in the various localities in which the utility renders service. It includes office expenses of such attorneys, the cost of printing briefs, legal forms, testimony, reports, establishment of rates, witness fees, notarial fees, registration fees and miscellaneous expenses such as traveling.

Insurance and taxes during construction include fire insurance, public liability, damages in excess of liability insurance, and property taxes.

The cost of financing includes the expense involved in assembling the necessary capital for the enterprise and must not be confused with bond discount which has not been considered in the estimates. This expense is that which would be incurred in the floating of securities and as the interest rate provides for the current market return upon the investment there is no discount to be considered.

In the matter of deterioration, some part of the general overheads would undoubtedly deteriorate in proportion to the deterioration in the physical property. For instance, while a great deal of the engineering and supervision done during construction would not be required in making replacements to any considerable extent, there is a certain

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part of it which must be repeated every time a material change is made in the layout of the plant from any cause whatsoever. It is therefore estimated that deterioration will occur in the general overheads allowed for engineering at the rates of ½ of 1 per cent in the production system, 2 per cent in the transmission system, 3 per cent in the distribution and 2 per cent in the general property.

As interest is an ever-continuing expense, it may be said to deteriorate as the property deteriorates. As the replacement of the property involves the expenditure of additional funds the interest charges are repeated, therefore all of the interest in each system is considered to deteriorate in proportion as the physical property deteriorates. No deterioration has been computed on the balance of the overhead construction costs, as it is considered that these costs once incurred would not again be necessary.

Working Capital

Working capital as shown in the estimates includes the amount shown on the Company's books for materials and supplies on hand at December 31, 1923, a reasonable allowance for cash in the bank, together with two months' average operating expenses based upon the year ended December 31, 1923. No other allowance has been made to cover stock of gas in lines and meters.

LEASEHOLDS AND NATURAL GAS RIGHTS.

Leaseholds and natural gas rights, proven and probable, have been included in the valuation at an amount computed as the value of the estimated remaining gas content of the proven and probable acreage.

Principle

The principle involved may be stated as follows:

> The measure of the value to the owner or lessee of gas in the ground is the difference between the prevailing market price at which such owner or lessee can purchase gas delivered to the field mains and the cost to such owner or lessee of producing and maintaining with his own wells an equivalent supply of gas at the same point of delivery.

In applying this principle it is necessary to arrive at:

(a) The total cost to the owner or lessee of producing and maintaining with his own wells and equipment an equivalent supply of gas corresponding in delivery conditions to those under which the gas is purchased. This total cost must include operating expenses and depreciation, amortization of the value of the equipment used and a fair return upon the investment in such equipment.

(b) The prevailing market price at which gas can be purchased as controlled by delivery conditions.

(c) The estimated recoverable content of the proven and probably productive acreage.

Prevailing Market Prices

In arriving at a result from the application of the above principle, computations were based upon several different market prices for gas, as explained in the following sections. In general these prices are either actually being paid for gas delivered in the field contiguous to wells and lines of United Fuel Gas Company, Inc., under varying conditions, or are the result of opinions expressed as to what this gas would sell for delivered for industrial purposes. In the following list of market prices only those calling for the delivery of gas by United Fuel Gas Com-

pany, Inc., at Cedarville, W. Va., and the delivery of gas to United Fuel Gas Company, Inc., by Falling Rock Cannel Coal Company in West Virginia, concern the United Fuel Gas Company.

It might be well to call attention to the fact that the price at which the United Fuel Gas Company purchases gas is not based primarily upon the rate at which it sells gas. The Company has the choice of either purchasing part of its supply in the field at the best price it can make, or of obtaining such additional supply from its own wells which would necessitate additional investment. Its decision is based upon which source is the most economical in point of cost and conservation of its supply.

	Contract Prices
Gas purchased by Owens Bottle Works, Charleston, W. Va., delivered in field	$0.10
Gas purchased by International Nickel Co., Huntington, W. Va., delivered in field	0.17
Gas delivered to Industrial Corporations at Pittsburgh	0.30
Gas purchased by South Penn Oil Co., delivered in the field	0.08
Gas delivered to Hope Natural Gas Co., and Pittsburgh and West Virginia Gas Co., at Cedarville, W. Va., by United Fuel Gas Co.	0.2266
Gas delivered in the field by Falling Rock Cannel Coal Co., W. Va., to United Fuel Gas Company	0.085

Owens Bottle Works

This company purchases gas in the field for use in its industrial plants at a general market price of $0.10 per m. c. f. The cost to the United Fuel Gas Company of maintaining an equivalent supply with its own wells and equipment would be $0.05431 per m. c. f., leaving a net difference of $0.04569 as the value of gas in the ground.

The detail computation of the above cost is shown in the following section:

Operating Cost to Owner of Maintaining Supply at Similar Delivery Point

The Company's records have been taken as the base for the expenses involved on this account. These items are, for the year ended December 31, 1923:

(a) Operating Wells and Field Lines less gas used in own operation.
(b) Production Tools and Supplies.
(c) Repairs to Wells.
(d) Repairs to Lines.
(e) Well Royalties.

To the total of the above has been added the general administration and Company operating overheads in the same proportion as these general expenses are chargeable to the production system expenses in the Company accounts.

The calculations involved in the foregoing paragraphs are set forth in the following tabulation:

Operating Wells and Field Lines	$114,104
Production Tools and Supplies	9,651
Repairs to Wells	121,406
Repairs to Field Lines	24,147
Well Royalties	192,247
Total	$461,555
Less Gas Used in Own Operations	$ 5,295
Total Direct Expenses	$456,260
Proportion of General Expenses	195,006
Total Expenses	$651,266

Expenses per m. c. f. (obtained by dividing total expenses by production of 37,370,482 m. c. f.)	$0.01743
Return on deteriorated value of wells and well lines at 8%, as shown by valuation of Dec. 31, 1923, divided by production	0.01388
Total Cost	$0.03131

To the foregoing total of expenses must be added a depletion charge which will provide for the recovery of the depletable value of a well unit based upon the present investment in wells. The reason for this is that the contracts for the purchase of gas generally call for the delivery of present production and do not take into account the delivery of a large quantity of gas similar to that which it is estimated remains in the territory controlled by the United Fuel Gas Company, Inc.

Depletion Charge per M. c. f.

The total sum per well unit is arrived at by taking:

(a) The estimated cost of reproduction of the well exclusive of the value of the material content recoverable and including construction overheads as applied to Production System Property, excepting interest. The material content recovered has been estimated at 85%, recovered in 80 per cent condition.

(b) The estimated cost of reproduction of well lines exclusive of materials recovered. This item includes the cost of laying 1,490 feet of line, which is the average required per well, the cost of recovering this number of feet of line, and the cost of the pipe lost in use which is equivalent to 33 per cent of the total pipe.

(c) The estimated cost of abandoning a well. This cost was arrived at from a study of the records and a review of the requirements prescribed for the abandonment of a gas well.

The sum of these charges is the cost of the depletable value of a well unit.

The computations as outlined above are shown in the following tabulation:

Estimated Depletable Value of Well Unit

Wells:		
Productive (excluding material content recoverable)	$8,704	
Overheads (excluding interest)	1,175	$ 9,879
Lines:		
Labor Laying	390	
Labor Recovering	390	
Materials Totally Lost in Use	259	1,039
Cost of Abandoning Well		1,000
Total Depletable Value of a Well Unit		$11,918

As the present wells were found to be still capable of producing 46 per cent of the original volume, it is this percentage of the depletable value of a well unit which must be provided for in the recovering of the estimated remaining recoverable content of the well.

The remaining recoverable content per well is estimated to be 238,360 m. c. f. (see below), which quantity divided into the above amount to be recovered results in a depletion charge of $0.023 per m. c. f.

The total estimated recoverable content of the proven and probable acreage, taken from the report of Mr. Davis, to which reference has been made, is 663,108,431 m. c. f. This gas is estimated to be contained in 262,592 acres or an average content per acre of 2,525 m. c. f. It was found from a study of the Company's records that each well, at present productive, carries an equivalent of 94.4 acres, which makes the content per well to be 238,360 m. c. f.

In summary the operating cost to owner of maintaining supply at similar delivery point is as follows:

Operating Cost per m. c. f.	$0.03131
Depletion Rate per m. c. f.	0.02300
Total Cost to Lessee or Owner per m. c. f.	$0.05431

International Nickel Company

This company has recently made a contract for the delivery of gas to its industrial plant, in Huntington, W. Va., at the rate of $0.20 per m. c. f. The company making the delivery computes its expense for delivering the gas from the gathering point in the field to Huntington, W. Va., to be $0.03 per m. c. f. This distance is approximately 12 miles. The expense includes operating cost, amortization and return upon the transmission investment necessary and the rate per M. c. f. is based upon the quantity to be delivered daily as called for in the contract. Deducting this transmission expense would fix $0.17 as the price at which delivery is made at a gathering point in the field. The cost to the United Fuel Gas Company of maintaining an equivalent supply with its own wells and equipment would be $0.05431, leaving a net difference of $0.11569 per m. c. f. as the value of gas in the ground. The detail computation of the amount deducted as United Fuel Gas Company expense is the same as that shown under the above heading "Owens Bottle Works".

Delivery to Industrial Corporations at Pittsburgh

A rate of $0.30 per m. c. f. has been assumed as the price at which gas could be sold in the industrial market in Pittsburgh. The fixing of this rate is based upon intimate knowledge of the value of natural gas for industrial purposes. It also compares favorably with the cost of hot producer gas. Also creditable information has been

obtained regarding statements made by Mr. S. W. Meals, President and General Manager of the Carnegie Natural Gas Company, to the effect that the United States Steel Corporation and other large steel corporations would readily pay at least this price for a large quantity of natural gas delivered uniformly throughout the year.

Cost of Delivering Gas for Industrial Use in Pittsburgh, Pa.

The cost to the United Fuel Gas Company of the gas sold at wholesale delivery points on its system is $0.17552 per m. c. f. (See following tabulation.) To this cost must be added the expense of operation, amortization and return upon the investment in the plant necessary to transmit the gas from the best available point (Cedarville) in the Company's present system, to Pittsburgh. The total quantity which the Company could be expected to deliver at a uniform rate throughout the year would approximate 46,000,000 m. c. f., or from 125 million to 150 million per day. To transmit this gas from Cedarville to Pittsburgh would require 2-20 in. lines each about 130 miles long and two compressing stations each of 9,000 h. p. capacity. The cost of operating this system, based upon United Fuel Gas Company actual costs and including allowances for amortization of and return upon the investment at 8 per cent, would be $0.0526 per m. c. f. This amount added to the total cost at Cedarville results in a total cost at Pittsburgh of $0.22812 per m. c. f., leaving a difference of $0.07188 as the value per m. c. f. of gas in the ground. The following tabulations give details of the above computations:

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Estimate of Transmission Property which would be required to transmit approximately 46,000,000 M. c. f. of Natural Gas per year from Cedarville, W. Va., to Pittsburgh, Pa.

2 - 20 in. Lines at 130 miles each totals 260 miles. 260 miles of 20 in. pipe line, including rights of way	$ 6,904,894
2 - 9,000 h. p. Compressing Stations	1,629,000
Total Physical Property	$ 8,533,894
Construction Overheads	2,218,812
Total Estimated Cost of Property	$10,752,706

Cost of Delivering Gas for Industrial Use in Pittsburgh, Pa.

	Per M. c. f.
Return on above total at 8%, $860,216 Divided by Sales of 46,000,000 M. c. f.	$0.01870
Amortization of approximately $10,000,000 of above value over 663,108,431 M. c. f. of gas	0.01510
Operating Cost (based upon United Fuel Gas Co. experience)	0.01270
Annual Depreciation Charge at 3%, $281,410 Divided by sales of 46,000,000 M. c. f.	0.00610
Total Cost Cedarville to Pittsburgh	$0.05260
United Fuel Gas Co. cost of delivery at Cedarville (see below)	0.17552
Total Cost Gas Delivered at Pittsburgh	$0.22812
Value at Pittsburgh for industrial use	0.30000
Net Difference as value of gas in the ground	$0.07188

Total Cost to United Fuel Gas Company of Delivering Gas at Cedarville, W. Va., in Wholesale Quantities, excluding Value and Amortization of Leaseholds and Natural Gas Rights.

Expenses:		
Production	$0.05005	
Transmission	0.01270	$0.06275
Depreciation:		
Production (No depletable property included)	$0.00425	
Transmission	0.01246	
General	0.00043	0.01714
Return on Investment (Estimated Cost of Reproduction New Less Observed Deterioration):		
Production (excluding Leaseholds and Natural Gas Rights)	$0.01722	
Transmission	0.02294	
General	0.00093	
Working Capital	0.00145	0.04254
Amortization of Physical Property (Deteriorated Value):		
Production (No depletable property included)	$0.00396	
Transmission	0.01518	
General Plant	0.00032	0.01946
Depletion:		0.03363
Total Cost of Gas Delivered at Cedarville, exclusive of Leaseholds and Natural Gas Rights		$0.17552 (A)

Note.—(A) Source of information on which this total cost is based is described in the following section.

Cost of Delivering Gas at Cedarville

The amounts included in the foregoing statements of cost for expenses are taken from the financial records of the Company for year 1923 and include the operating expenses, the cost of gas purchased and proportion of general administration expenses and taxes chargeable to the production and transmission systems.

The charges for depreciation are determined by applying varying percentage rates to each class of property, using as a basis the estimated cost of reproduction new of the property as of December 31, 1923. In no case is depreciation computed upon property which has been considered depletable.

The return on investment is computed at 8 per cent upon the estimated cost of reproduction new less observed deterioration at December 31, 1923. Each of the units under headings "Expenses", "Depreciation" and "Return on Investment" are obtained by dividing the total amounts by the quantity of gas handled during the year 1923.

Amortization is computed upon the value of the physical property which it will not be possible to salvage at the end of its useful service life. Generally, the amortizable value has been arrived at by deducting from the estimated cost to reproduce less observed deterioration, 10 per cent of the deteriorated value of the physical property only. The unit is arrived at by dividing the total sum to be amortized by the estimated recoverable gas in the ground.

Depletion Charge per M. c. f.

The depletion charge shown in the above tabulation is determined in much the same manner as is described under the heading Owens Bottle Works. This charge must be sufficient to provide for the recovery of the value of the property required to produce and deliver in the field the

quantity of gas which it is estimated remains in the ground. This determination involves the total value of the present equipment which will be used for this purpose and the amount of additional equipment which it will be necessary to install in order to produce the full amount of gas. The depletable value per well unit is arrived at by taking:

(a) The estimated cost of reproduction of the wells exclusive of the value of the material content recoverable and including construction overheads as applied to production system property, excepting interest.

(b) The estimated cost of reproduction of well lines necessary to the service of each well, exclusive of materials recovered.

(c) The estimated cost of abandoning wells at exhaustion.

This computation uses the same depletable value of a well unit of $11,918, as detailed in the section headed "Owen Bottle Works".

With reference to the present wells, inasmuch as they were found to be still capable of producing 46 per cent of their original volume, the total depletable value per well is taken as that percentage of the above total of $11,918.

The estimate of the additional number of well units in which the Company will have to invest and deplete in order to recover the remaining gas is taken as the number of additional locations indicated by dividing the estimated remaining recoverable content per well (238,360 m. c. f.) into the total estimated recoverable content in Mr. Davis' report (663,108,431 m. c. f.). This calculation results in a total number of locations of 2,782, of which 789.7 are occupied by present active wells, leaving a total yet to drill of 1,992.3.

It is to this number of locations that the estimated depletable value of a well unit is applied in arriving at the total depletable value of the additional investment necessary to produce the full quantity of gas which it is estimated remains.

Tabulated, the above results in the following:

Present wells—789.7 @ 46 per cent of $11,918	$ 4,329,356.52
Additional wells—1,992.3 @ $11,918	23,744,231.40
Total Depletable Value of Wells	$28,073,587.92
This total divided by the remaining content per well results in a depletion unit of	$0.04234 per M.c.f.

The rate of $0.03363, used in the tabulation of total cost, is arrived at by determining the amount of annual depletion accrued by the quantity of gas produced and dividing this total by the total sales of the Company.

South Penn Oil Company

This company, which is in no sense a public utility company, purchases gas delivered to its mains in the field at a rate of $0.08, this rate being the general market price which the South Penn Oil Company is at present quoting for the purchase of gas. Advice has been received that this company has made recent contracts at a price of $0.12 per m. c. f. for gas delivered in the field and from which the gasoline has been extracted. This goes to show that the price of $0.08, while being the quoted market price, is not the limit at which the Company will make contracts. The cost to the United Fuel Gas Company of the delivery of a corresponding amount under similar conditions would be $0.05431 per m. c. f.,

leaving a net difference of $0.02569 per m. c. f., as the value of gas in the ground.

The detail computation of the above item of cost is shown in the preceding section under the heading "Owens Bottle Works".

Delivery to Purchaser at Cedarville

The rate of $0.2266 which is used in this computation as the sales price at Cedarville is the average rate which was received for gas delivered by the United Fuel Gas Company at Cedarville to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company during the period August, 1923, to April, 1924. The cost to the Company of delivering this gas at Cedarville is computed to be $0.17552, which leaves a difference of $0.05108 as the value of the gas in the ground. The detail computation of cost at Cedarville is shown in the foregoing section referring to cost of delivering gas in Pittsburgh.

Falling Rock Cannel Coal Company

The United Fuel Gas Company has entered into a contract with the Falling Rock Cannel Coal Company for the purchase from it of a large quantity of natural gas, from which the gasoline has been removed at $0.085 per m. c. f. delivered at a central point in the field. In fixing upon this rate as one of the several market prices, all of the various gas purchase contracts entered into recently by the United Fuel Gas Company with independent producers, were scrutinized. In many cases it was found that the price was affected by the position of the producer in the field and his relation to a general market. In other cases it was found that special prices were granted for concessions other than merely the delivery of gas. Eliminating all such contracts from consideration it was

found that the one with the Falling Rock Cannel Coal Company, of Kanawha County, W. Va., was the best example of the present market price at which the United Fuel Gas Company could purchase gas in reasonably large quantities in the field served by its system. The Falling Rock Cannel Coal Company at the time it made the contract was in a position to command the price at which it was willing to sell gas, inasmuch as it had a competitive market in which to deal. In other words, this contract was one made between a willing seller and a willing buyer and was not influenced by restrictions as to market or supply which affected the other contracts.

The cost to the United Fuel Gas Company of maintaining a similar supply with its own wells and equipment is $0.05431 per m. c. f., leaving a net difference of $0.03069 per m. c. f. as the value of gas in the ground, exclusive of any value of gasoline content.

The detail computation of the United Fuel Gas Company cost is similar to that shown under foregoing heading "Owens Bottle Works".

Conclusion

Summarized, the foregoing results are as follows:

	Contract Rate	Value per M.c.f. Gas in Ground
Purchase in field by Owens Bottle Works	$0.10	$0.04569
Purchase in field by International Nickel Co.	0.17	0.11569
Delivery at Pittsburgh	0.30	0.07188
Purchase in field by South Penn Oil Co.	0.08	0.02569
Delivery at Cedarville by United Fuel Gas Co.	0.2266	0.05108
Purchase of "Dry" Gas in field by United Fuel Gas Co.	0.085	0.03069

Based upon a review of these results and considering the varying circumstances surrounding the making of each contract, as well as the fact that most of the prices are for gas from which the gasoline has been extracted, it has been assumed that a fair and reasonable value of gas in the ground is not less than $0.05 per m. c. f. For the purpose of the computation of value of Leaseholds and Natural Gas Rights, exclusive of any value of gasoline content, in this report, the value of $0.05 per m. c. f. has been used.

Estimated Recoverable Content of the Proven and Probably Productive Acreage

The total estimated recoverable content of the proven and probable acreage as taken from the report of Mr. Davis, is 663,108,431 m. c. f. It is to this quantity of recoverable gas that the value of $0.05 per m. c. f. is applied, resulting in a total value of proven and probable acreage of $33,155,421.55.

Valuation of Unproven Acreage

The total acreage in this classification is taken from Mr. Davis' report. The value at which it has been included herein is the average bonus or investment charge per acre incurred by the Company in the year 1923 in the acquisition of the unproven acreage which it acquired during that year. This is taken as the measure of the value of this acreage as it represents bona fide transactions in the acquisition of such leaseholds.

The number of acres in this class is 552,319 and the cost of acquisition per acre in 1923 was found to be $5.9635, making a total value of unoperated acreage of $3,293,754.

SUMMARY OF VALUATION

By States and Systems

Estimated Cost of Reproduction as of December 31, 1923

Classification	Total		West Virginia		Kentucky		Ohio	
	New	Less Deterioration	New	Less Deterioration	New	Less Deterioration	New	Less Deterioration
Production System	$49,023,964	$44,279,576	$44,136,361	$39,635,170	$ 4,887,603	$ 4,644,406	$	$
Transmission System	13,467,823	11,154,326	11,413,264	9,446,663	1,690,852	1,404,257	363,707	303,406
Distribution System	3,269,363	2,694,806	2,325,319	1,915,322	509,545	421,012	434,499	358,472
General Property	679,140	594,742	644,021	566,293	29,550	24,076	5,569	4,373
Total	$66,440,290	$58,723,450	$58,518,965	$51,563,448	$ 7,117,550	$ 6,493,751	$ 803,775	$ 666,251
General Overhead Charges	7,063,311	6,357,046	6,149,797	5,517,663	722,224	662,606	191,290	176,777
Total	$73,503,601	$65,080,496	$64,668,762	$57,081,111	$ 7,839,774	$ 7,156,357	$ 995,065	$ 843,028
Working Capital	990,000	990,000						
Total	$74,493,601	$66,070,496						

By States and Accounts

Estimated Cost of Reproduction as of December 31, 1923

Acct. No.	Description	Total New	Total Less Deterioration	West Virginia New	West Virginia Less Deterioration	Kentucky New	Kentucky Less Deterioration	Ohio New	Ohio Less Deterioration
	Production System Properties								
204	Land								
205	Leaseholds								
207	Natural Gas Rights	$36,449,176	$36,449,176	$32,326,537	$32,326,537	$ 4,122,639	$ 4,122,639	$---------	$---------
206	Rights of Way	111,454	111,454	101,980	101,980	9,474	9,474	---------	---------
208	Gas Well Structures	59,360	44,520	59,360	44,520	---------	---------	---------	---------
209	Field Measuring Station Structures	4,919	4,379	4,702	4,196	217	183	---------	---------
210	Other Production System Structures	111,759	90,931	108,113	88,067	3,646	2,864	---------	---------
211	Gas Well Construction	5,869,386	2,699,917	5,631,849	2,590,650	237,537	109,267	---------	---------
212	Gas Well Equipment	2,156,587	1,470,733	2,061,807	1,406,045	94,780	64,688	---------	---------
213	Field Line Construction	1,244,603	995,682	1,114,395	891,516	130,208	104,166	---------	---------
214	Field Line Equipment	2,658,379	2,126,703	2,383,189	1,906,551	275,190	220,152	---------	---------
215	Field Measuring Station Equipment	40,637	34,541	39,232	33,347	1,405	1,194	---------	---------
216	Drilling and Cleaning Equipment	204,030	142,822	195,908	137,136	8,122	5,686	---------	---------
217	Other Production System Equipment	33,035	28,079	31,090	26,426	1,945	1,653	---------	---------
	Total Prod. System Properties	$48,943,325	$44,198,937	$44,058,162	$39,556,971	$ 4,885,163	$ 4,641,966	$---------	$---------
	Incomplete Construction	80,639	80,639	78,199	78,199	2,440	2,440	---------	---------
		$49,023,964	$44,279,576	$44,136,361	$39,635,170	$ 4,887,603	$ 4,644,406	$---------	$---------
	General Overhead Charges	2,700,792	2,297,519	2,536,562	2,153,961	164,230	143,558	---------	---------
	Total	$51,724,756	$46,577,095	$46,672,923	$41,789,131	$ 5,051,833	$ 4,787,964	$---------	$---------
	Transmission System Properties								
218	Land	$ 3,533	$ 3,533	$ 3,383	$ 3,383	$ 150	$ 150	$---------	$---------
219	Leaseholds	---------	---------	---------	---------	---------	---------	---------	---------
220	Rights of Way	159,713	159,713	120,583	120,583	30,505	30,505	8,625	8,625
221	Compressing Station Structures	271,494	230,182	251,684	214,019	19,810	16,163	---------	---------
222	Transmission System Meas. Sta. Str.	3,176	2,749	2,160	1,928	720	584	296	237
223	Other Trans. System Structures	212,611	187,895	198,087	175,004	12,096	10,895	2,428	1,996
224	Compressing Station Equipment	3,241,759	2,622,010	3,125,628	2,530,772	116,131	91,238	---------	---------
225	Trans. System Mens. Sta. Equip.	23,081	19,619	19,427	16,513	2,449	2,082	1,205	1,024
226	Transmission System Equipment	9,520,856	7,902,310	7,670,452	6,366,475	1,502,587	1,247,147	347,817	288,688
227	Other Transmission System Equip.	35,235	29,950	25,823	21,949	6,076	5,165	3,336	2,836
	Total Trans. System Properties	$13,471,458	$11,157,961	$11,417,227	$ 9,450,626	$ 1,690,524	$ 1,403,929	$ 363,707	$ 303,406
	Incomplete Construction	3,635	3,635	3,363	3,363	328	328	---------	---------
		$13,467,823	$11,154,326	$11,413,264	$ 9,446,643	$ 1,690,852	$ 1,404,257	$ 363,707	$ 303,406
	General Overhead Charges	3,501,388	3,270,038	2,967,212	2,770,532	439,612	410,952	94,564	88,534
	Total	$16,969,211	$14,424,364	$14,380,476	$12,217,215	$ 2,130,464	$ 1,815,209	$ 458,271	$ 391,940

By States and Accounts

Estimated Cost of Reproduction as of December 31, 1923

Acct. No.	Description	Total New	Total Less Deterioration	West Virginia New	West Virginia Less Deterioration	Kentucky New	Kentucky Less Deterioration	Ohio New	Ohio Less Deterioration
	Distribution System Property								
228	Land	$ 45,161	$ 45,161	$ 38,992	$ 38,992	$ 3,186	$ 3,186	$ 2,983	$ 2,983
229	Leaseholds								
230	Rights of Way	4,891	4,891	3,595	3,595	538	538	758	758
231	District Regulator Structures	34,962	28,961	23,326	19,022	6,294	5,482	5,342	4,457
232	Other Distribution Structures	39,634	31,146	29,903	23,424	6,237	4,978	3,494	2,744
233	Gas Receivers and District Regulators	69,499	59,074	49,882	42,400	11,037	9,381	8,580	7,293
234	Distribution Line Equipment	1,768,976	1,415,181	1,295,803	1,036,643	250,771	200,617	222,402	177,921
235	Service Line Equipment	547,023	464,969	385,410	327,599	90,530	76,950	71,083	60,420
236	Meters	532,492	452,618	354,369	301,213	96,795	82,276	81,328	69,129
237	Meter Installations	209,853	178,286	133,325	113,237	40,907	34,771	35,621	30,278
238	House Regulators								
239	Other Distribution System Equipment	15,691	13,338	10,113	8,596	2,781	2,364	2,797	2,378
	Total Distribution System Equip.	$ 3,268,182	$ 2,693,625	$ 2,324,718	$ 1,914,721	$ 509,076	$ 420,543	$ 434,388	$ 358,361
	Incomplete Construction	1,181	1,181	601	601	469	469	111	111
		$ 3,269,363	$ 2,694,806	$ 2,325,319	$ 1,915,322	$ 509,545	$ 421,012	$ 434,499	$ 358,472
	General Overhead Charges	717,905	654,703	510,400	465,300	112,004	102,265	95,501	87,138
	Total	$ 3,987,268	$ 3,349,509	$ 2,835,719	$ 2,380,622	$ 621,549	$ 523,277	$ 530,000	$ 445,610
	General Property								
244	General Office Land	$ 174,500	$ 174,500	$ 172,350	$ 172,350	$ 2,150	$ 2,150	$	$
245	Other General Land	31,653	31,653	29,693	29,693	1,960	1,960		
246	Leaseholds								
247	General Office Structures	144,587	128,725	144,587	128,725				
248	Other General Structures								
249	General Office Equipment	59,429	45,504	53,938	41,371	2,420	1,805	3,071	2,328
250	General Store Equipment								
251	General Shop Equipment	18,055	14,979	14,929	12,365	1,772	1,462	1,354	1,152
252	General Stable Equipment	10,799	9,946	10,799	9,946				
253	General Garage Equipment	28,608	22,537	27,099	21,421	710	497	799	619
254	General Laboratory Equipment								
255	General Tel. and Tel. Equipment	204,214	161,151	184,153	145,302	20,061	15,849		
256	General Tools and Implements	7,295	5,747	6,473	5,120	477	353	345	274
257	Other General Equipment								
262	Patent Rights and Licenses								
	Total General Property	$ 679,140	$ 594,742	$ 644,021	$ 566,293	$ 29,550	$ 24,076	$ 5,569	$ 4,373
	General Overhead Charges	143,226	134,786	135,623	127,850	6,378	5,831	1,225	1,105
	Total	$ 822,366	$ 729,528	$ 779,644	$ 694,143	$ 35,928	$ 29,907	$ 6,794	$ 5,478

SUMMARY BY DISTRIBUTION PLANTS

Distribution Plant	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration	Incomplete Construction	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration
West Virginia:					
Amma	$ 957	$ 787			
Bannister	1,244	1,033			
Barboursville	25,821	21,506			
Big Creek	2,784	2,310			
Big Sandy	945	786			
Blue Creek	3,554	2,953			
Buff Lick	2,429	2,053			
Cedarville	730	621			
Ceredo	21,129	17,202			
Charleston	870,242	715,199			
Chelyan	16,338	13,510			
Cherry Tree Bottom	5,489	4,556			
Clendenin	30,240	24,885			
Coalburg	14,527	11,993			
Culloden	3,615	3,007			
East Bank	9,399	7,727			
East Lynn	5,161	4,271			
Elkview	3,384	2,798			
Fort Gay	9,475	7,849			
Gandeeville	2,392	1,940			
Gay	2,676	2,192			
Greyeagle	1,532	1,245			
Hunt	4,795	3,899			
Huntington	780,414	641,279			
Hurricane	16,763	13,831			
Jordan Creek	1,193	989			
Kanawha City	33,026	26,909			
Kenova	61,907	50,982			
Kermit	21,203	18,953			
King	870	727			
Kygar	893	740			
Lock Seven	1,676	1,373			
Logan	39,944	32,973			
McClanahan	2,448	1,991			
Milliken	542	459			

SUMMARY BY DISTRIBUTION PLANTS

Distribution Plant	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration	Incomplete Construction	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration
West Virginia (Concluded):					
Newton	$ 578	$ 490	$	$	$
Nitro	20,854	17,332			
Ona	1,914	1,609			
Poca	6,639	5,513			
Quick	922	765			
Ravenswood	26,775	22,110			
Reedy	10,070	8,309			
Rich Creek	335	284			
Ripley	21,445	17,737			
Sandyville	3,630	3,011			
Silverton	3,259	2,668			
Sissonville	3,223	2,657			
So. Charleston	64,679	52,992			
Spencer	44,392	36,442			
Stoffle	663	565			
Three Mile	1,037	850			
Walgrove	825	683			
Walton	5,969	5,137			
Williamson	102,931	85,198			
Miscellaneous	1,246	1,246			
Total in West Virginia	$ 2,324,718 (A)	$ 1,914,721 (A)	$ 601	$ 2,325,319	$ 1,915,322
Kentucky					
Ashland	$ 308,255	$ 253,983	$	$	$
Buchanan	989	832			
Burnaugh	1,101	903			
Catlettsburg	85,231	70,644			
Chinnville	8,971	7,417			
Greenup	19,291	15,812			
Himlerville	8,609	7,174			
Inez	9,297	7,865			
Louisa	33,489	27,738			

SUMMARY BY DISTRIBUTION PLANTS

Distribution Plant	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration	Incomplete Construction	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration
Kentucky (Concluded):					
Russell	$ 27,122	$ 22,476	$	$	$
Warfield	4,164	3,486			
Wolf Creek	1,994	1,650			
Miscellaneous	25	25			
Total in Kentucky	$ 509,076 (A)	$ 420,543 (A)	$ 469	$ 509,545	$ 421,012
Ohio					
Bradrick	$ 5,822	$ 4,768	$	$	$
Chesapeake	17,400	14,344			
Coal Grove	14,022	11,602			
Corryville	6,937	5,667			
Ironton	236,818	194,852			
New Boston	81,424	67,679			
Portsmouth	43,397	35,725			
Proctorville	15,117	12,470			
Wheelersburg	12,643	10,445			
Miscellaneous	51	51			
Total in Ohio	$ 434,389 (A)	$ 358,361 (A)	$ 111	$ 434,500	$ 358,472

NOTE —(A) Includes Right of Way

Estimated Cost of Reproduction NEW

Summary by Distribution Plants and Accounts

Acct. No.:	228	230	231	232	233	234	235	236	237	239	
Distribution Plant *West Virginia:*	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters	Meter Installations	Other Dist. System Equipment	Total NEW
Amma	$	$	$ 109	$	$ 87	$ 442	$ 203	$ 91	$ 25	$	$ 957
Bannister			228		153	278	250	200	127	8	1,244
Barboursville	131		843		1,072	10,488	5,244	5,260	2,674	109	25,821
Big Creek	51		196		253	1,102	203	580	356	43	2,784
Big Sandy	13		82		38	501	16	180	115		945
Blue Creek					355	1,361	876	609	353		3,554
Buff Lick			131		93	272		1,716	166	51	2,429
Cedarville					169			293	255	13	730
Ceredo	1		846		262	10,978	4,579	2,716	1,674	64	21,129
Charleston	906		5,845	12,483	14,693	469,325	126,685	179,160	57,705	3,440	870,242
Chelyan			147		650	7,659	3,374	2,745	1,682	81	16,338
Cherry Tree Bottom			113		38	2,125	1,276	1,169	725	43	5,489
Clendenin			455		1,193	16,211	4,232	5,463	2,570	116	30,240
Coalburg			146	435	1,132	6,991	3,459	1,443	871	50	14,527
Culloden					238	1,284	1,046	613	382	52	3,615
Eastbank			311		317	5,184	2,426	701	433	27	9,399
East Lynn			370		278	2,133	1,018	855	429	78	5,161
Elkview			114		141	1,435	470	747	472	5	3,384
Fort Gay	101		258		374	4,137	1,969	1,567	960	109	9,475
Gandeeville			131		186	1,010	467	290	264	44	2,392
Gay					245	1,674	297	262	198		2,676
Greyeagle						1,143	175	131	83		1,532
Hunt					131	3,648	501	318	204		4,795
Huntington	26,035		7,136	9,563	10,790	503,040	135,569	63,334	22,876	2,071	780,414
Hurricane			192	799	666	6,919	3,495	2,874	1,685	133	16,763
Jordan Creek					299	511	141	138	89	15	1,193
Kanawha City			114		1,041	23,453	3,396	3,441	1,384	197	33,026
Kenova	400		422	296	1,391	32,946	12,774	9,583	3,579	516	61,907
Kermit	8,375		109		346	6,442	2,718	2,233	842	138	21,203
King			98		186	439		90	57		870

Estimated Cost of Reproduction NEW
Summary by Distribution Plants and Accounts
(Continued)

Acct. No.:	228	230	231	232	233	234	235	236	237	239	
Distribution Plant *West Virginia:*	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters	Meter Installations	Other Dist. System Equipment	Total NEW
Kyger	$	$	$	$	$ 131	$ 345	$ 125	$ 122	$ 113	$ 57	$ 893
Lock Seven						1,047	282	218	129		1,676
Logan	16		478	174	186	19,527	10,086	6,369	2,825	283	39,944
McClanahan			114		169	1,755	172	142	89	7	2,448
Milliken					328	16		117	76	5	542
Newton					169	25		244	140		578
Nitro						6,099	713	9,242	4,563	237	20,854
Ona			49		369	474	501	323	198		1,914
Poca					253	2,560	1,718	1,285	767	56	6,639
Quick				109	186	382		150	95		922
Ravenswood	60		389		679	12,338	6,328	4,904	1,867	210	26,775
Reedy			209		413	4,493	2,125	1,391	1,215	134	10,070
Rich Creek					153	18		100	64		335
Ripley	81		294		461	9,573	4,648	3,363	2,851	174	21,445
Sandyville			200		327	1,329	779	501	401	93	3,630
Silverton	11		174		131	1,801	435	350	269	88	3,259
Sissonville			130		169	1,656	531	474	250	13	3,223
South Charleston			724		4,001	39,439	8,418	8,463	3,294	340	64,679
Spencer	324		533		1,781	25,843	7,279	5,958	2,326	348	44,392
Stoffel			71		224	19		210	134	5	663
Three Mile					86	632	172	90	57		1,037
Walgrove			114		76	284	250	59	38	4	825
Walton	1,141		98		320	1,976	965	733	633	103	5,969
Williamson	109		1,263	6,044	2,453	41,039	23,624	20,759	7,696	553	102,931
Miscellaneous	1,246										1,246
Total in West Virginia	$ 38,992	$ 3,595	$ 23,326	$ 29,963	$ 49,882	$1,295,803	$ 385,410	$ 354,369	$ 133,325	$ 10,113	$2,324,718

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts

Acct No.:	228	230	231	232	233	234	235	236	237	239	
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters	Meter Installations	Other Dist. System Equipment	Total Less Deterioration
West Virginia:											
Amma	$	$	$ 87	$	$ 74	$ 354	$ 173	$ 77	$ 22	$	$ 787
Bannister			183		130	223	213	170	108	6	1,033
Barboursville	131		778		911	8,391	4,458	4,471	2,273	93	21,506
Big Creek	51		157		215	881	173	493	303	37	2,310
Big Sandy	13		77		32	401	13	153	97		786
Blue Creek					302	1,089	745	517	300		2,953
Buff Lick			112		79	218		1,459	141	44	2,053
Cedarville					144			249	217	11	621
Ceredo	1		517		223	8,783	3,892	2,309	1,423	54	17,202
Charleston	906		4,665	9,738	12,489	375,460	107,682	152,286	49,049	2,924	715,199
Chelyan			129		552	6,127	2,868	2,333	1,432	69	13,510
Cherry Tree Bottom			93		32	1,700	1,084	994	616	37	4,556
Clendenin			379		1,014	12,969	3,598	4,642	2,184	99	24,885
Coalburg			122	365	962	5,593	2,940	1,227	741	43	11,993
Culloden					202	1,027	889	521	324	44	3,007
East Bank			262		269	4,147	2,062	596	368	23	7,727
East Lynn			304		237	1,707	866	726	365	66	4,271
Elkview			91		120	1,148	399	635	401	4	2,798
Fort Gay	101		207		318	3,309	1,673	1,332	816	93	7,849
Gandeeville			68		158	808	397	246	225	38	1,940
Gay					209	1,339	253	222	169		2,192
Greyeagle						915	148	112	70		1,245
Hunt					111	2,919	426	270	173		3,899
Huntington	26,635		5,994	7,374	9,171	402,432	115,234	53,834	19,445	1,760	641,279
Hurricane			172	599	566	5,535	2,970	2,443	1,433	113	13,831
Jordan Creek					254	409	120	117	76	13	989
Kanawha City			105		885	18,762	2,887	2,925	1,177	168	26,909
Kenova	400		309	252	1,182	26,356	10,858	8,145	3,042	438	50,982
Kermit	8,375		87		294	5,154	2,311	1,898	716	118	18,953
King			92		158	351		77	49		727

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts
(Continued)

Acct No.:	228	230	231	232	233	234	235	236	237	239	
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters	Meter Installations	Other Dist. System Equipment	Total Less Deterioration
West Virginia—(Concluded):											
Kyger	$	$	$	$	$ 111	$ 276	$ 106	$ 103	$ 96	$ 48	$ 740
Lock Seven						838	240	186	109		1,373
Logan	16		382	167	158	15,622	8,573	5,414	2,401	240	32,973
McClanahan			94		144	1,404	146	121	76	6	1,991
Milliken					279	12		99	65	4	459
Newton					144	20		207	119		490
Nitro						4,880	606	7,856	3,788	202	17,332
Ona			47		314	379	426	275	168		1,609
Poca					215	2,048	1,460	1,092	651	47	5,513
Quick				93	158	306		127	81		765
Ravenswood	60		290		578	9,870	5,378	4,169	1,587	178	22,110
Reedy			227		351	3,595	1,807	1,182	1,033	114	8,309
Rich Creek					130	15		85	54		284
Ripley	81		225		392	7,658	3,951	2,859	2,423	148	17,737
Sandyville			162		278	1,063	662	426	341	79	3,011
Silverton	11		136		111	1,440	370	298	228	74	2,668
Sissonville			112		144	1,324	451	403	212	11	2,657
South Charleston			604		3,401	31,551	7,155	7,193	2,799	289	52,992
Spencer	324		405		1,514	20,675	6,187	5,064	1,977	296	36,442
Stoffel			64		190	15		179	113	4	565
Three Mile					73	505	146	77	49		850
Walgrove			91		65	228	213	51	32	3	683
Walton	1,141		74		272	1,581	820	623	538	88	5,137
Williamson	100		1,119	4,836	2,085	32,831	10,570	17,645	6,542	470	85,198
Miscellaneous	1,246										1,246
Total in West Virginia	$ 38,992	$ 3,595	$ 19,022	$ 23,424	$ 42,400	$1,036,643	$ 37,599	$ 301,213	$ 113,237	$ 8,596	$1,914,721 (A

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts
(Concluded)

Acct No.:	228	230	231	232	233	234	235	236	237	239	
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters	Meter Installations	Other Dist. System Equipment	Total Less Deterioration
Kentucky:											
Ashland	$ 1,576	$	$ 1,997	$ 642	$ 4,281	$ 132,458	$ 39,087	$ 54,801	$ 18,213	$ 928	$ 253,983
Buchanan					157	157	266	155	97		832
Burnaugh					111	507	186	60	38	1	903
Catlettsburg	80		1,961	3,268	1,498	27,410	16,403	12,389	7,186	449	70,644
Chinnville	30		224		373	3,280	1,422	1,183	731	174	7,417
Greenup	75		154	234	545	9,684	2,690	1,451	824	155	15,812
Himlerville			224		294	2,499	2,465	1,011	655	26	7,174
Inez	1,050		145		261	2,980	1,407	999	907	116	7,865
Louisa			445	834	1,085	10,216	5,974	5,719	3,199	266	27,738
Russell	150		169		441	9,433	6,074	3,769	2,343	97	22,476
Warfield	200		81		215	1,282	604	553	465	86	3,486
Wolf Creek			82		120	711	372	186	113	66	1,650
Miscellaneous	25										25
Total in Kentucky	$ 3,186	$ 538	$ 5,482	$ 4,978	$ 9,381	$ 200,617	$ 76,950	$ 82,278	$ 34,771	$ 2,364	$ 420,543 (A)
Ohio:											
Bradrick	$ 25	$	$ 87	$	$ 79	$ 2,850	$ 810	$ 476	$ 314	$ 127	$ 4,768
Chesapeake	25		131		182	7,081	3,366	2,108	1,385	66	14,344
Coal Grove			384		337	5,381	2,714	1,663	1,043	80	11,602
Corryville	25		87		158	3,623	678	607	400	89	5,667
Ironton	293		1,283	341	2,799	104,033	31,037	39,447	14,549	1,070	194,852
New Boston	1,865		1,080	2,403	1,886	24,824	14,820	14,282	6,096	423	67,679
Portsmouth	569		821		1,208	19,665	1,809	6,958	4,345	350	35,725
Proctorville	100		209		136	6,103	2,819	1,913	1,127	63	12,470
Wheelersburg	30		375		508	4,361	2,367	1,675	1,019	110	10,445
Miscellaneous	51										51
Total in Ohio	$ 2,983	$ 758	$ 4,457	$ 2,744	$ 7,293	$ 177,921	$ 60,420	$ 69,129	$ 30,278	$ 2,378	$ 358,361 (A)

NOTE: (A) Includes Rights of Way.

Summary of Valuation of Leaseholds and Natural Gas Rights

Summarizing the foregoing computations results in the total estimated value of Leaseholds and Natural Gas Rights as follows:

Estimated Value of Proven and Probably Productive Acreage	$33,155,422
Estimated Value of Unproven Acreage	3,293,754
Total Estimated Value of Leaseholds and Natural Gas Rights	$36,449,176

SUMMARIES

SUMMARY OF VALUATION

By Systems

Classification	Estimated Cost of Reproduction As of December 31, 1923 New	Less Deterioration
Production System	$49,023,964	$44,279,576
Transmission System	13,467,823	11,154,326
Distribution System	3,269,363	2,694,806
General Property	679,140	594,742
Total	$66,440,290	$58,723,450
General Overhead Charges	7,063,311	6,357,046
Working Capital	990,000	990,000
Total	$74,493,601	$66,070,496

PRINCIPAL UNIT PRICES USED IN ESTIMATING REPRODUCTION COST

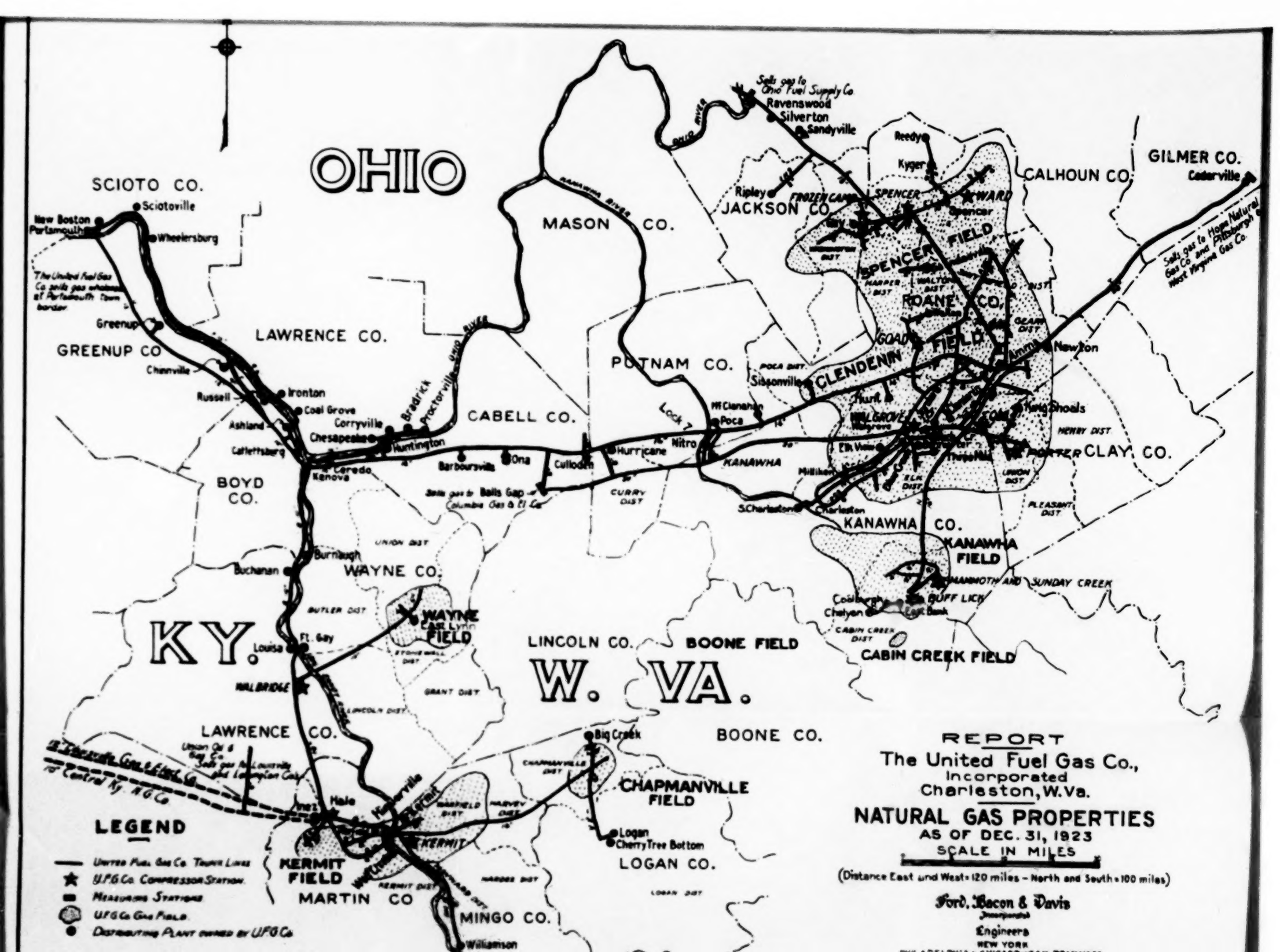
United Fuel Gas Co.
Principal Unit Prices Used in Estimating Cost of Reproduction New

Item	Unit Price
Field Pipe Lines, per foot, installed:	
(Gathering Lines)	
2 in. Screwed End	$ .3092
3 in. " "	.5686
4 in. " "	.7649
6 in. " "	1.2983
8 in. Plain End	1.8647
10 in. " "	2.4429
12 in. " "	3.2123
14 in. " "	3.6433
16 in. " "	4.1382
18 in. " "	4.8787
20 in. " "	5.3562
Transmission Pipe Lines, per foot, installed:	
2 in. Screwed End	$ .3124
3 in. " "	.5732
4 in. " "	.7717
6 in. " "	1.3080
8 in. " "	1.8785
10 in. " "	2.4659
12 in. " "	3.2640
14 in. Plain End	3.6738
16 in. " "	4.1720
18 in. " "	4.9191
20 in. " "	5.3999
Distribution Pipe Lines, per foot, installed:	
2 in. Charleston, D. P.	.2881
3 in. " " "	.5143
4 in. " " "	.6882
6 in. " " "	1.1915
8 in. " " "	1.5864
10 in. " " "	2.1137

United Fuel Gas Co.
Principal Unit Prices Used in Estimating Cost of Reproduction New

(Concluded)

Item	Unit Price
12 in. " " "	2.8810
14 in. " " "	3.1524
16 in. " " "	3.6285
Wells:	
Average Cost per Well	$10,163.32
Material Cost per ft. (Average)	1.37
Labor Cost per ft. (Average)	3.74
Total Cost per ft. (Average)	$ 5.11
Compressing Stations:	
Average Cost per H. P. of Comp. Stations	$ 124.70
Meters—installed:	
Charleston Dist. Plant	
Tobey A	$ 13.84
" 1	14.33
" 2	23.85
" 3	37.15
" 4	83.27
Services—installed:	
Charleston Dist. Plant	
1 in.	$ 8.42
1-¾ in.	9.52
1-½ in.	10.57
2 in.	12.96


OHIO
SCIOTO CO.
Sciotoville
New Boston
Portsmouth
Wheelersburg
The United Fuel Gas Co sells gas wholesale at Portsmouth town border
Greenup
GREENUP CO
Chanville
Russell
Ironton
Coal Grove
Ashland
Coryville
Chesapeake
Catlettsburg
Kenova
BOYD CO.
Burnaugh
Buchanan
WAYNE CO.
KY.
Louisa
Ft. Gay
LAWRENCE CO.
LAWRENCE CO.
Bradrick
Proctorville
Ohio River
Sells gas to Ohio Fuel Supply Co
Ravenswood
Silverton
Sandyville
Ripley
JACKSON CO
MASON CO.
Kanawha River
CABELL CO.
Huntington
Barboursville
Ona
Culloden
Hurricane
Nitro
Lock 7
Mt Clenahan
Poca
POCA DIST
Sissonville
PUTNAM CO.
Sells gas to Ballo Gap Columbia Gas & El Co
CURRY DIST
KANAWHA
S. Charleston
Charleston
KANAWHA CO.
KANAWHA FIELD
MAMMOTH AND SUNDAY CREEK
Coalburgh
Chelyan
BUFF LICK
East Bank
CABIN CREEK DIST
CABIN CREEK FIELD
Millikens
ELK DIST
UNION DIST
PLEASANT DIST
Reedy
Kyger
CALHOUN CO.
GILMER CO.
Cedarville
Sells gas to Hope Natural Gas Co and Pittsburgh & West Virginia Gas Co.
FROZEN CAMP
SPENCER
WARD
Spencer
SPENCER FIELD
HARPER DIST
WALTON DIST
ROANE CO.
GOAD FIELD
GRANT DIST
Newton
CLENDENIN
Hurst
Hillgrove
Elk View
Three Mile
King Shoals
HENRY DIST
PORTER
CLAY CO.
UNION DIST
BUTLER DIST
WAYNE
East Lynn
FIELD
STONE WALL DIST
GRANT DIST
LINCOLN DIST
HALBRIDGE
Union Oil & Gas Co
Sells gas to Louisville and Lexington Cos
To Central Ky NG Co
BOONE FIELD
LINCOLN CO.
W. VA.
BOONE CO.
Big Creek
CHAPMANVILLE DIST
CHAPMANVILLE FIELD
Logan
Cherry Tree Bottom
LOGAN CO.
LOGAN DIST
Inez
Hale
Kermit
KERMIT
KERMIT FIELD
MARTIN CO
MARFIELD DIST
HARVEY DIST
KERMIT DIST
HARDEE DIST
MINGO CO.
Williamson
LEGEND
United Fuel Gas Co. Trunk Lines
U.F.G. Co. Compressor Station
Measuring Stations
U.F.G. Co. Gas Fields
Distributing Plant owned by U.F.G. Co.
REPORT
The United Fuel Gas Co.,
Incorporated
Charleston, W.Va.
NATURAL GAS PROPERTIES
AS OF DEC. 31, 1923
SCALE IN MILES
(Distance East and West = 120 miles – North and South = 100 miles)
Ford, Bacon & Davis
Incorporated
Engineers
NEW YORK

[fols. 819 & 820] UEBELACKER EXHIBIT No. 3

Estimated Historical Cost United Fuel Gas Company, Incorporated, Property Existing at December 31, 1923

Letter of Transmittal

Established 1894

Ford, Bacon & Davis, Incorporated, Engineers, Valuations-Reports-Construction-Management, 115 Broadway, New York

Frank R. Ford, George W. Bacon, George H. Davis, Charles F. Uebelacker, Charles N. Black, William Von Phul

New York, Philadelphia, Chicago, San Francisco

New York, May 26, 1924.

United Fuel Gas Company, Incorporated,
Charleston, W. Va.

DEAR SIRS: We hand you herewith our report upon the estimated historical cost of the physical property, natural gas rights and leaseholds of the United Fuel Gas Company, Inc. and its subsidiaries, Warfield Natural Gas Company and Cabin Creek Gas Company, existing December 31, 1923.

Very truly yours, Ford, Bacon & Davis, Inc.

[fol. 821] Report

Valuation United Fuel Gas Company, Incorporated

Estimated Historical Cost Property Existing at December 31, 1923

Scope of Report

The purpose of this report is to set forth the estimated historical cost of the physical property of the United Fuel Gas Company, Inc.; existing at December 31, 1923.

The inventory and its verification, and the general field work upon which this estimate has been based is to all intents and purposes the same as that shown in the valuation

of the physical property on a reproduction new basis as of December 31, 1923. That valuation has been made the basis of a separate report. It is referred to in the following paragraphs as the "Valuation Report as of December 31, 1923."

The inventory has been priced herein on an estimated historical cost basis:

That is the physical property now in existence and installed prior to December 31, 1915 at prices representing the average of the ten-year period 1906 to 1915. The cost of property installed since 1915 was determined from the records of the Company, which showed the net cost of additions and retirements from December 31, 1915 to August 31, 1923. This method was found to give the most accurate and practical determination of historical cost.

To the total estimated historical cost of the physical property arrived at under the general method described above has been added an estimate of the construction overheads.

Inventory and Prices

In applying the above general method certain adjustments had to be made in some of the smaller accounts due to the nature of the records which were used. Theses adjustments are explained in detail in the subsequent paragraphs under the major property headings.

In compiling the unit prices for application to the property installed prior to December 31, 1915 the same procedure was followed as was used and described in the Valuation Report as of December 31, 1923.

Land

The amounts included in this report for land are the costs shown on the Company's books. No attempt was made to have this land appraised as of the date of its acquisition.

Rights of Way

The cost of Rights of Way and Rights of Way Expense have been included at the total amounts of these accounts as shown by the books of the Company

[fol. 822] Buildings and Structures

The prices for buildings and structures were built up in the same manner as was described in the Valuation Report as of December 31, 1923. The prices used for structural steel, steel products such as sheet iron, corrugated iron and other metal products, were obtained from records of actual prices for the years 1906-1915. Prices of certain other commodities such as lumber, cement, sand, gravel, etc., were arrived at by trending the present day costs to each of the years in the period under discussion by means of Government trends and other published data. In this manner the best prices available for each year during the period 1906-1915 were obtained. After determination of basic commodity prices the procedure followed in compiling the unit prices for application to the structures is the same as that set forth in the report before referred to. The labor rates were taken from the Company's records and from records of labor rates paid on similar construction work in West Virginia back to the year 1906.

The inventory designated the buildings and structures installed subsequent to December 31, 1915, the cost of these buildings being determined from the books.

Gas Wells

The cost of the gas well construction account as developed from the books of the Company was subjected to a careful check as to accuracy of record. The result of this check was to verify the costs as shown by well records of the Company as being a satisfactory measure of the estimated historical cost of this account. It was therefore decided to use the cost as shown by the well records as being the total cost of the gas well construction account of the active wells.

With reference to the gas well equipment account average costs of casing and tubing for the period 1906-1915 were compiled from quotations by representative concerns covering each year and applied to material in wells drilled or acquired prior to December 31, 1915. To this total was added the cost of equipment in wells drilled or acquired subsequent to December 31, 1915, at the amounts shown by the well records of the Company.

Field Lines

The inventory of field lines was prepared to show the gathering lines installed prior to December 31, 1915 and the book cost of the subsequent additions.

The inventory of well lines was segregated to show the lines installed prior to December 31, 1915 and the book cost of the lines installed subsequent to that date, using as a basis the date of completion of the wells to which the lines are attached.

The prices for materials for the period 1886-1915 were taken from records of quotations of representative manufacturers for each year of that period. The same percentages [fol. 823] were allowed for fittings as was used in the Valuation Report as of December 31, 1923. The labor prices used for the period 1886-1915 were built up from Company records and from records of labor rates paid in the fields. The method of building up unit prices for the period 1886-1915 followed exactly that described in the above referred to report.

Transmission Lines

The inventory of transmission lines was prepared to show the date of installation of each line. The lines installed prior to December 31, 1915 were priced at average prices for the period 1886-1915. The lines installed subsequent to December 31, 1915 are included herein at the cost as developed from the books for the individual lines. Commodity prices used in the average 1886-1915 prices were obtained from quotations made by representative manufacturers for the purchase of pipe in large quantities. The labor rates were obtained from the records of the Company, and from records of rates actually paid in West Virginia. The method of compiling unit prices follows exactly that described in the Valuation Report as of December 31, 1923.

Distribution Lines

The method used in the determination of the estimated historical cost of distribution lines departed slightly from the method described under transmission and field lines. This was due to the fact that the date of the installation of

each line in the distribution plants could not be determined accurately. The method used consisted of the preparation of an inventory of lines in existence at December 31, 1915; pricing this inventory at the average of prices during the period 1906 to 1915, and adding to this result the net change in investment in the period from December 31, 1915 to December 31, 1923 as shown by the books. This addition has the effect of making the necessary changes in the 1915 inventory and of adding the investment at book cost for the period subsequent to 1915.

The commodity prices used in the average 1906 to 1915 prices were obtained from quotations made by representative manufacturers for the purchase of pipe in large quantities. The labor rates were obtained from the records of the Company and from records of rates actually paid in West Virginia. The method used in compiling unit prices for period 1906 to 1915 follows exactly that described in the Valuation Report as of December 31, 1923.

Compressing Station Equipment and Structures

The compressing stations of this Company were all installed subsequent to 1913. A careful scrutiny was made of the costs at which the charges were made in the books and it was found that the books reflected an accurate historical cost of the stations. The book prices have therefore been [fol. 824] considered as the estimated historical cost of the compressing station equipment and structures, these two accounts being consolidated in the records.

Measuring Station Equipment

As the inventory of measuring stations developed the fact that practically all present stations had been installed subsequent to 1915 the book cost has been taken as the estimated historical cost of this account.

Meters and Services

As it was impracticable to prepare the inventories in such manner as to show the date of installation of each item, it was necessary to follow the plan of pricing as modified in the description under the heading "Distribution Lines."

This method generally was to price an inventory as of December 31, 1915 at the average 1906 to 1915 prices and add to this total the net changes in investment as shown on the books for the period December 31, 1915 to December 31, 1923. This addition has the effect of making the necessary changes in the 1915 inventory and of adding the investment at book cost for the period subsequent to December 1915.

Drilling and Cleaning Equipment

It was impracticable to prepare the inventory of drilling and cleaning equipment in such manner as to show the date of acquisition of each item. However, the nature of this equipment is such as to make it reasonable to assume that it has practically all been acquired subsequent to 1915. The major items of value, such as cables, lines, etc., are undoubtedly of recent acquisition. For this reason, the book costs have been used as the estimated historical cost basis for this account.

Telephone and Telegraph Equipment

The inventory of this equipment was set up by lines, giving the date of installation of each line. The general rule was followed in this case, that is, the lines installed prior to December 31, 1915 were priced on the average 1906 to 1915 price basis and the lines installed subsequent to December 31, 1915 were added at the cost of acquisition shown by the books. The prices of labor and commodities used in the estimaed 1906 to 1915 price basis were obtained from records of quotations during the years in question. The method used in compiling unit prices followed that described in the Valuation Report as of December 31, 1923.

General Equipment

This group includes shop, office, garage, and stable equipment, general tools and implements. As the majority of these items were acquired subsequent to 1915, the book cost has been used throughout.

[fol. 825] **Direct Overheads**

The direct overheads used in building up the average prices for the period 1906 to 1915 are the same as those de-

scribed and used in the Valuation Report as of December 31, 1923.

General Overheads

The general overhead rates included herein are the same as those described in detail in the Valuation Report as of December 31, 1923, with the exception that interest has been taken at 6 per cent instead of 8 per cent as used in the other report.

Working Capital

Working capital in this report is taken as the same amount as was used in the Valuation Report as of December 31, 1923.

Leaseholds and Natural Gas Rights

The leaseholds and natural gas rights are included herein at the amounts shown on the books of the Company as of December 31, 1923.

Summaries of the Estimated Historical Cost are attached, set up in accordance with "A Uniform Classification of Accounts for Natural Gas Utilities prescribed by The Public Service Commission of West Virginia.

Summaries

United Fuel Gas Company, Inc.

Summary of Estimated Historical Cost

Classification	Estimated historical cost property existing Dec. 31, 1923
Production System	$15,590,875
Transmission System	9,238,086
Distribution System	2,226,203
General Property	319,211
Total	$27,374,375
General Overhead Charges	4,449,333
Total	$31,823,708
Working Capital	990,000
Total	$32,813,708

[fol. 826]

United Fuel Gas Company, Inc.

Summary of Estimated Historical Cost by States

Classification	Estimated historical cost property existing December 31, 1923			
	Total	West Virginia	Kentucky	Ohio
Production System	$15,590,875	$15,068,360	$522,515	
Transmission System	9,238,086	7,955,766	1,055,431	$226,889
Distribution System	2,226,203	1,587,456	340,357	298,390
General Property	319,211	293,265	21,968	3,978
Total	$27,374,375	$24,904,847	$1,940,271	$529,257
General Overhead Charges	4,449,333	3,914,933	419,563	114,837
Total	$31,823,708	$28,819,780	$2,359,834	$644,094
Working Capital	990,000			
Total	$32,813,708			

[fol. 827] United Fuel Gas Company, Inc.

Summary of Estimated Historical Cost by States and Accounts

Acct. No.	Description	Estimated historical cost property existing December 31, 1923			
	Production System Properties:	Total	West Virginia	Kentucky	Ohio
					$
204	Land				
205	Leaseholds				
207	Natural Gas Rights	$6,732,920	$6,693,254	$39,666	
206	Rights of Way	97,796	89,483	8,313	
208	Gas Well Structures	59,360	59,360		
209	Field Measuring Station Structures	1,906	1,831	75	
210	Other Production System Structures	69,581	67,958	1,623	
211	Gas Well Construction	4,043,573	3,895,486	148,087	
212	Gas Well Equipment	1,514,101	1,453,903	60,198	
213	Field Line Construction	1,047,919	958,796	89,123	
214	Field Line Equipment	1,756,934	1,590,478	166,456	
215	Field Measuring Station Equipment	47,179	45,314	1,865	
216	Drilling and Cleaning Equipment	122,017	118,213	3,804	
217	Other Production System Equipment	16,950	16,085	865	
	Total Production System	$15,510,236	$14,990,161	$520,075	$
	Incomplete Construction	80,639	78,199	2,440	
		$15,590,875	$15,068,360	$522,515	$
	General Overhead Charges	1,724,856	1,630,908	93,948	
	Total	$17,315,731	$16,699,268	$616,463	$

Summary of Estimated Historical Cost by States and Accounts—Continued

Acct. No.	Description	Estimated historical cost property existing December 31, 1923			
		Total	West Virginia	Kentucky	Ohio
[fol. 828]	Transmission System Properties:				
218	Land	$3,533	$3,383	$150	
219	Leaseholds				
220	Rights of Way	138,882	104,856	26,526	$7,500
221	Compressing Station Structures (A)				
222	Transmission System Measuring Station Structures	2,822	1,983	699	140
223	Other Transmission System Structures	149,765	142,202	6,132	1,431
224	Compressing Station Equipment (A)	2,839,966	2,735,006	104,960	
225	Transmission System Measuring Station Equipment	28,235	22,561	3,829	1,845
226	Transmission System Equipment	6,061,359	4,936,562	910,103	214,694
227	Other Transmission System Equipment	17,159	13,176	2,704	1,279
	Total Transmission System	$9,241,721	$7,959,729	$1,055,103	$226,889
	Incomplete Construction	3,635*	3,963*	328	
		$9,238,086	$7,955,766	$1,055,431	$226,889
	General Overhead Charges	2,216,892	1,909,146	253,293	54,453
	Total	$11,454,978	$9,864,912	$1,308,724	$281,342

NOTE.—(A) Figures taken from trial balance, where they are shown as for both Accts. Nos. 221 and 224.

[fol. 829] Distribution System Properties:

228	Land	$22,705	$17,409	$2,313	$2,983
229	Leaseholds				
230	Rights of Way	4,152	3,052	457	643
231	District Regulator Structures	17,929	11,694	3,969	2,257
232	Other Distribution Structures	18,010	13,865	2,540	1,605
233	Gas Receivers and District Regulators	21,454	15,260	3,344	2,850
234	Distribution Line Equipment	1,093,253	794,286	158,716	140,251
235	Service Line Equipment	361,200	260,282	52,723	48,195
236	Meters	534,420	373,682	87,299	73,439
237	Meter Installations	141,441	89,861	27,571	24,009
238	House Regulators				
239	Other Distribution System Equipment	11,367	7,464	1,856	2,047
	Total Distribution System	$2,225,022	$1,586,855	$339,888	$298,279
	Incomplete Construction	1,181	601	469	111
		$2,226,203	$1,587,456	$340,357	$298,390
	General Overhead Charges	444,559	316,969	68,002	59,588
	Total	$2,670,762	$1,904,425	$408,359	$357,978

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Summary of Estimated Historical Cost by States and Accounts—Continued

Acct. No.	Description	Estimated historical cost property existing December 31, 1923			
		Total	West Virginia	Kentucky	Ohio
[fol. 830]	General Properties:				
244	General Office Land	$27,216	$24,766	$2,450	
245	Other General Land	8,762	7,935	827	
246	Leaseholds				
247	General Office Structures	72,096	72,096		
248	Other General Structures				
249	General Office Equipment	39,951	36,273	1,681	$1,997
250	General Store Equipment				
251	General Shop Equipment	11,568	9,759	920	898
252	General Stable Equipment	10,014	10,014		
253	General Garage Equipment	28,675	26,930	943	802
254	General Laboratory Equipment				
255	General Telephone and Telegraph Equipment	115,157	100,411	14,746	
256	General Tools and Implements	5,772	5,090	401	281
257	Other General Equipment				
202	Patent Rights and Licenses				
	Total General Property	$319,211	$293,265	$21,968	$3,978
	General Overhead Charges	63,026	57,910	4,320	796
	Total	$382,237	$351,175	$26,288	$4,774

[fols. 831 & 832] UEBELACKER EXHIBIT No. 5

United Fuel Gas Company, Incorporated

West Virginia Distribution

Analyses of Expenses and Return on Investment per M. C. F. and in Total

Expenses and Sales, Year 1923, Actual

Valuation Basis—Estimated Cost of Reproduction New and Less Observed Deterioration

[fol. 833] United Fuel Gas Company, Inc.

Notes on Analyses of Expenses and Return on Investments

Expenses and Sales:

Expenses and sales are as shown by Company financial staements for year 1923. Warfield Natural Gas Co. and Cabin Creek Gas Co. expenses and sales (except intercompany) have been consolidated with United Fuel Gas Co. Allowance has been made for general expenses applicable to Cabin Creek Gas Co. oil and gasoline operations. Allocation of general expenses to Virginian Gasoline & Oil Co. have been accepted as accurate as made by Company.

Depreciation:

Depreciation has been determined for each class of material by applying percentage rates determined for each class. Basis is Estimated Cost of Reproduction New except as noted in Production System.

Amortization:

Amortization of Proven Acreage is based upon the depletion of gas content at the value per M. C. F. fixed in Valuation Report as of December 31, 1923. Amortization of Unproven Acreage is based upon the average length of time during which the Company has held unproven acreage before abandoning it.

Amortization of Physical Property has been based upon the Deteriorated value of the Property which the Company will not be able to salvage.

[fol. 834] Depletion:

Depletion has been based upon the depletable value of wells and field lines as set forth in Valuation Report as of December 31, 1923.

Return:

In every calculation of return the deteriorated value only of Gas Wells has been used.

Allocation to West Virginia:

Production System units have been considered on basis of total gas sold.

Transmission System Expenses, Depreciation, Amortization and Return on Investment have been allocated to West Virginia on basis of gas sales, except where pipe lines are concerned. In the case of pipe lines the allocation has been made on the basis of miles of main located in West Virginia and Kentucky, excluding the section of Kentucky extending North and West from the State Line along the Ohio River. This system has been considered as handling all gas sold except field sales. The balance of the system in Kentucky and the system in Ohio have been considered as handling only the gas sold along the Ohio River in Kentucky and in Ohio. In other words, the gas sold in the last named section is considered as having been handled twice.

Distribution System property and expenses are as actually located or segregated in the various distribution plants.

Working Capital is allocated on the basis of expenses incurred in operating the plant in each State and system.

[fol. 835] UEBELACKER EXHIBIT No. 5

United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales, Year 1923, Actual Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Return at 8 per Cent

	Cost per M reproduction new		Cost per M less observed deterioration	
Expense:				
Production	$0 05005		$0 05005	
Transmission	01270		01270	
		$0 06275		$0 06275
Depreciation:				
Production	00425		00425	
Transmission	01246		01246	
General (Less General in Distribution)	00043		00043	
		01714		01714
Return:				
Production	08071		07921	
Transmission	02701		02294	
General (Less General in Distribution)	00106		00093	
Working Capital—Production	00116		00116	
" " —Transmission	00029		00029	
		11023		10453

UEBELACKER EXHIBIT No. 5—Continued

	Cost per M reproduction new		Cost per M less observed deterioration	
Amortization:				
Proven Acreage	03972		03972	
Unproven Acreage	00637		00637	
Production System (Plant not Depletable)	00396		00396	
Transmission System	01518		01518	
General Property	00032		00032	
		06555		06555
Depletion		03363		03363
Total City Gate Rate		$0 28930		$0 28360
Distribution:				
Expense	02655		02655	
Depreciation—Distribution Property	00748		00748	
" —General Property	00086		00086	
Return—Distribution Property	02142		01798	
" —General Property	00139		00128	
" —Working Capital	00064		00064	
Amortization—Distribution Property	01328		01328	
" —General Property	00018		00018	
		07180		06825
Total Distribution Rate		$0 36110		$0 35185

Details of Analysis of Expenses and Return on Investment

Direct Expenses:		Total	Allocated to W. Va.
General Expenses and Taxes—(Prorating):			
Total (to Prorate)		$839,829	
Production Expense	$1,222,378	62 20%	
Transmission "	462,647	23 54%	
Distribution "	280,140	14 26%	
Total	$1,965,165	100 00%	
Proportion Overheads:			
To Production System		$522,353	
To Transmission "		197,716	
To Distribution "		119,720	
Total Overheads		$839,829	

UEBELACKER EXHIBIT No. 5—Continued

Production Expense:

Direct Expense:	Total	Allocated to W. Va.
Superintendence	$7,354	
Operating Wells and Lines	114,104	
Production Tools and Supplies	9,651	
Field Measuring Stations	17,424	
Lease hold Expense	48,702	
Rentals on Unoperated Leases	628,523	
Well Royalties	192,247	
Cancelled and Surrendered Leases	233	
Miscellaneous and Insurance	50,146	
Changing Construction	9,473	
Repairs to Wells	121,406	
Repairs to Field Lines	24,147	
Field Measuring Stations	4,263	
Total	$1,227,673	
Less Gas used in own operation	5,295	
Total	$1,222,378	
Proportion of General Overheads	522,393	
Gas Purchased	619,263	
Total	$2,364,034	
Less Depletable Item	9,473	
Total Production Expense	$2,354,561	
Dividing this total by Total Sales of 47,040,235 M. C. F., results in Unit per M. C. F. of		$0.05005

[fol. 837] Transmission Expense:

Direct Expense:

Superintendence	$4,672	
Transmission Lines, Operation	32,703	
Transmission Tools and Supplies	2,878	
Compressing Stations, Operation	381,692	
Measuring Stations, Operation	9,620	
Miscellaneous and Insurance	9,400	
Changing Construction	8,720	
Transmission Lines, Maintenance	43,777	
Compressing Stations, "	104,913	
Measuring Station, "	1,709	
Total	$600,084	
Less Gas used in own operation	137,437	
Total	$462,647	
Proportion of General Overheads	197,716	
Total Transmission Expense	$660,363	
		$580,087

Dividing this Total by Total Sales Less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F. of $0 01270

UEBELACKER EXHIBIT NO. 5—Continued

Depreciation:	Total	Allocated to W. Va.
Production System—Amount of Annual Depreciation (Basis does not include any property considered depletable):		
Gas Well Structures (Deteriorated Value)	$4,520	
Field Measuring Station Structures	246	
Other Production System Structures	5,588	
Field Line Construction	46,826	
" " Equipment	102,285	
Field Measuring Station Equipment	1,625	
Drilling and Cleaning Equipment (Deteriorated Value)	21,423	
Other Production System Equipment	1,652	
Overheads (Partial Engineering and Interest)	15,654	
Total Annual Depreciation	$199,819	
This total divided by Total Sales of 47,040,235 M.C.F., results in Unit per M.C.F. of		$0.00425

[fol. 838] Transmission System—Amount of Annual Depreciation:

	West Virginia Allocated to
Compressing Station Structures	$10,860
Measuring Station Structures	110
Other Transmission System Structures	8,399
Compressing Station Equipment	162,088

Transmission Line Equipment	334,407
Other Transmission System Equipment	1,177
Overheads (Partial Engineering and Interest)	51,704
	$568,745
This total divided by Total Sales less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F.	$0 01246
General Property—Amount of Annual Depreciation:	
General Office Structures	$1,834
General Office Equipment	2,125
General Shop Equipment	1,805
General Stable Equipment	1,080
General Telephone and Telegraph Equipment	10,211
General Tools and Implements	1,459
Overheads (Partial Engineering and Interest)	1,851
Total Annual Depreciation	$20,365
This total divided by Total Sales of 47,040,235 M. C. F., results in Unit per M. C. F.	$0 00043

UEBELACKER EXHIBIT NO. 5—Continued

[fol. 839] Return on Investment at 8% :	Allocated to W. Va	
	New	Less deterioration
Production System—Valuation	$47,459,219	$46,577,096
Amount of Return	3,796,738	3,726,168
Divided by Total Sales of 47,040,235 M. C. F., results in Unit per M. C. F. of	0 08071	0 07921
Transmission System—Valuation	15,416,207	13,090,258
Amount of Return	1,233,297	1,047,221
Divided by Total Sales less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F. of	0 02701	0 02294
General Property—Valuation	621,578	546,251
Amount of Return	49,726	43,701
Divided by Total Sales of 47,040,235 M. C. F., results in Unit per M. C. F. of	0 00106	0 00093
Working Capital—Production System	683,475	683,475
Amount of Return	54,678	54,678
Divided by Total Sales of 47,040,235 M. C. F., results in Unit per M. C. F. of	0 00116	0 00116
Working Capital—Transmission System	167,711	167,711
Amount of Return	13,417	13,417
Divided by Total Sales less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F.	0 00029	0 00029

Amortization (Annual Amount to be Amortized)	Allocated to West Virginia
Leaseholds—Proven Acreage	$1,868,524
Divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	0 039972
Leaseholds—Unproven Acreage	299,432
Divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	0 00637
Production System Plant not Depletable	186,441
Divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	0 00396
Transmission System	692,894
Divided by Total Sales less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F.	0 01518
General Property (Balance not applicable to Dist. Sys.)	14,597
Divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	0 00032
[fol. 840] Depletion	$1,582,266
Divided by Total Sales of 47,040,235 M. C. F., results in Unit per M. C. F.	0 03363

Ubbelaeder Exhibit No. 5—Continued

Distribution:	Total	Allocated to W. Va.
Direct Expense:		
Superintendence	$4,286	
Operating Lines	25,506	
Connecting and Disconnecting Meters	31,269	
Electrolysis	16	
Shop Expense	8,143	
Miscellaneous and Insurance	2,902	
Changing Construction	25,172	
Lines and Regulators, Maintenance	20,771	
Meters and House Regulators, Maintenance	23,289	
Services, Maintenance	17,840	
Reading Meters	22,228	
Salaries of Office Force and Collectors	82,501	
Rent, Heat, Light, Telephone Rentals and Tools	9,759	
Stationery and Supplies	7,549	
Miscellaneous and Insurance	203	
Total	$281,434	
Less Gas used in own operation	1,294	
Total	$280,140	
Proportion of General Overheads	119,720	
Total Distribution Expense	$399,860	$281,208

Dividing this total by Sales through Distribution Plants of 10,593,248 M. C. F., results in Unit per M. C. F.	$0 02655

[fol. 841] Depreciation (Annual amount of Depreciation):

Direct Property:	Allocated to West Virginia
District Regulator Structures	$933
Other Distribution System Structures	897
Gas Receivers and District Regulators	1,496
Distribution Line Equipment	38,874
Service Line Equipment	11,562
Meters	10,631
Meter Installations	6,666
Other Distribution System Equipment	303
Overheads (Partial Engineering and Interest)	7,850
	$79,212
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00748
General Property Applicable to Distribution System	$9,138
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00086

UEBELACKER EXHIBIT No. 5—Continued

	Allocated to W. Va.	
	New	Less deterioration
Return on Investment:		
Direct Property—Valuation	$2,835,719	$2,380,622
Amount of Return	226,858	190,450
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 02142	0 01798
General Property—Valuation	184,641	169,558
Amount of Return	14,771	13,565
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00139	0 00128
Working Capital	85,000	85,000
Amount of Return	6,800	6,800
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00064	0 00064
		Allocated to West Virginia
[fol. 842] Amortization (Annual Amount to be Amortized):		
Direct Property (Deteriorated Value)		$140,722
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.		0 01328
General Property (Deteriorated Value)		1,895
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.		0 00018

[fol. 843] United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales Year 1923, Actual Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Return at 10 per Cent

	Cost per M reproduction new		Cost per M less observed deterioration	
Expense:				
Production	$0 05005		$0 05005	
Transmission	01270		01270	
		$0 06275		$0 06275
Depreciation:				
Production	00425		00425	
Transmission	01246		01246	
General (Less General in Distribution)	00043		00043	
		01714		01714
Return:				
Production	10089		09902	
Transmission	03377		02867	
General (Less General in Distribution)	00132		00116	
Working Capital—Production	00145		00145	
" " —Transmission	00037		00037	
		13780		13067

Uebelacker Exhibit No. 5—Continued

	Cost per M reproduction new		Cost per M less observed deterioration	
Amortization:				
Proven Acreage	03972		03972	
Unproven Acreage	00637		00637	
Production System (Plant not Depletable)	00396		00396	
Transmission System	01518		01518	
General Property	00032		00032	
		06555		06555
Depletion		03363		03363
Total City Gate Rate		$0 31687		$0 30974
Distribution:				
Expense	02655		02655	
Depreciation—Distribution Property	00748		00748	
" —General Property	00086		00086	
Return—Distribution Property	02677		02247	
" —General Property	00174		00160	
" —Working Capital	00080		00080	
Amortization—Distribution Property	01328		01328	
" —General Property	00018		00018	
		07766		07322
Total Distribution Rate		$0 39453		$0 38296

[fol. 844] United Fuel Gas Company, Inc.

Details of Analysis of Expenses and Return on Investment

Direct Expenses:

General Expenses and Taxes—(Prorating):		Total	Allocated to W. Va.
Total (to Prorate)		$839,829	
Production Expense	$1,222,378	62.20%	
Transmission "	462,647	23.54%	
Distribution "	280,140	14.26%	
Total	$1,965,165	100.00%	
Proportion Overheads:			
To Production System		$522,393	
To Transmission "		197,716	
To Distribution "		119,720	
Total Overheads		$839,829	

Production Expense:

Direct Expense:	Total	Allocated to W. Va
Superintendence	$7,354	
Operating Wells and Lines	114,104	
Production Tools and Supplies	9,651	
Field Measuring Stations	17,424	
Leasehold Expense	48,702	
Rentals on Unoperated Leases	628,523	
Well Royalties	192,247	
Cancelled and Surrendered Leases	233	
Miscellaneous and Insurance	50,146	
Changing Construction	9,473	
Repairs to Wells	121,406	
Repairs to Field Lines	24,147	
Field Measuring Stations	4,263	
Total	$1,229,673	
Less Gas used in own operation	5,295	
Total	$1,222,378	
Proportion of General Overheads	522,393	
Gas Purchased	619,263	
Total	$2,364,034	

Less Depletable Item	9,473	
Total Production Expense	$2,354,561	
Dividing this total by Total Sales of 47,040,235 M. C. F., results in Unit per M. C. F. of		$0.05005

[fol. 845] Transmission Expense:

Direct Expense:		
Superintendence	$4,672	
Transmission Lines, Operation	32,703	
Transmission Tools and Supplies	2,878	
Compressing Stations, Operation	381,692	
Measuring Stations, Operation	9,620	
Miscellaneous and Insurance	9,400	
Changing Construction	8,720	
Transmission Lines, Maintenance	43,777	
Compressing Stations, "	104,913	
Measuring Stations, "	1,709	
Total	$600,084	
Less Gas used in own operation	137,437	
Total	$462,647	

Uebelacker Exhibit No. 5—Continued

	Total	Allocated to W. Va.
Proportion of General Overheads	197,716	
Total Transmission Expense	$660,363	
		$580,087
Dividing this Total by Total Sales Less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F. of		$0.01270
Depreciation:		
Production System—Amount of Annual Depreciation (Basis does not include any property considered depletable):		
Gas Well Structures (Deteriorated Value)	$4,520	
Field Measuring Station Structures	246	
Other Production System Structures	5,588	
Field Line Construction	46,826	
" " Equipment	102,285	
Field Measuring Station Equipment	1,625	
Drilling and Cleaning Equipment (Deteriorated Value)	21,423	
Other Production System Equipment	1,652	
Overheads (Partial Engineering and Interest)	15,654	
Total Annual Depreciation	$199,819	
This total divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F. of		$0.00425

[fol. 846] Transmission System—Amount of Annual Depreciation:

	Allocated to West Virginia
Compressing Station Structures	$10,860
Measuring Station Structures	110
Other Transmission System Structures	8,399
Compressing Station Equipment	162,088
Transmission Line Equipment	334,407
Other Transmission System Equipment	1,177
Overheads (Partial Engineering and Interest)	51,704
	$568,745
This total divided by Total Sales less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F.	$0 01246

General Property—Amount of Annual Depreciation:

General Office Structures	$1,834
General Office Equipment	2,125
General Shop Equipment	1,805
General Stable Equipment	1,080
General Telephone and Telegraph Equipment	10,211
General Tools and Implements	1,459
Overheads (Partial Engineering and Interest)	1,851
Total Annual Depreciation	$20,365
This total divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	$0 00043

UEBELACKER EXHIBIT No. 5—Continued

[fol. 847] Return on Investment at 10%:	Allocated to W. Va. New	Allocated to W. Va. Less deterioration
Production System—Valuation	$47,459,219	$46,577,096
Amount of Return	4,745,922	4,657,710
Divided by Total Sales of 47,040,235 M.C.F., results in Unit per M. C. F. of	0 10089	0 09902
Transmission System—Valuation	15,416,207	13,090,258
Amount of Return	1,541,621	1,309,026
Divided by Total Sales less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F. of	0 03377	0 02867
General Property—Valuation	621,578	546,281
Amount of Return	62,158	54,628
Divided by Total Sales of 47,040,235 M.C.F., results in Unit per M. C. F. of	0 00132	0 00116
Working Capital—Production System	683,475	683,475
Amount of Return	68,348	68,348
Divided by Total Sales of 47,040,235 M.C.F., results in Unit per M. C. F. of	0 00145	0 00145
Working Capital—Transmission System	167,711	167,711
Amount of Return	16,771	16,771
Divided by Total Sales less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F.	0 00037	0 00037

Amortization (Annual Amount to be Amortized):	Allocated to West Virginia
Leaseholds—Proven Acreage	$1,868,524
Divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	0 039972
Leaseholds—Unproven Acreage	299,432
Divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	0 00637
Production System Plant not Depletable	186,441
Divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	0 00396
Transmission System	692,894
Divided by Total Sales less Field Sales of 45,656,128 M. C. F., results in Unit per M. C. F.	0 01518
General Property (Balance not applicable to Dist. Sys.)	14,597
Divided by Total Sales of 47,040,235 M.C. F., results in Unit per M. C. F.	0 00032
[fol. 848] Depletion	$1,582,266
Divided by Total Sales of 47,040,235 M. C. F., results in Unit per M. C. F.	0 03363

Uebelacker Exhibit No. 5—Continued

Distribution:

Direct Expense:	Total	Allocated to W. Va.
Superintendence	$4,286	
Operating Lines	25,506	
Connecting and Disconnecting Meters	31,269	
Electrolysis	16	
Shop Expense	8,143	
Miscellaneous and Insurance	2,902	
Changing Construction	25,172	
Lines and Regulators, Maintenance	20,771	
Meters and House Regulators, Maintenance	23,289	
Services, Maintenance	17,840	
Reading Meters	22,228	
Salaries of Office Force and Collectors	82,501	
Rent, Heat, Light, Telephone Rentals and Tools	9,759	
Stationery and Supplies	7,549	
Miscellaneous and Insurance	203	
Total	$281,434	
Less Gas used in own operation	1,294	
Total	$280,140	
Proportion of General Overheads	119,720	
Total Distribution Expenses	$399,860	$281,208
Dividing this total by Sales through Distribution Plants of 10,593,248 M. C. F., results in Unit per M. C. F.		$0.02655

[fol. 849] Depreciation (Annual amount of Depreciation):

Direct Property:	Allocated to West Virginia
District Regulator Structures	$933
Other Distribution System Structures	897
Gas Receivers and District Regulators	1,496
Distribution Line Equipment	38,874
Service Line Equipment	11,562
Meters	10,631
Meter Installations	6,666
Other Distribution System Equipment	303
Overheads (Partial Engineering and Interest)	7,850
	$79,212
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00748
General Property Applicable to Distribution System	$9,138
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00086

Uebelacker Exhibit No. 5—Continued

	Allocated to W. Va.	
Return on Investment:	New	Less deterioration
Direct Property—Valuation	$2,835,719	$2,380,622
Amount of Return	283,572	238,062
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 02677	0 02247
General Property—Valuation	184,641	169,558
Amount of Return	18,464	16,956
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00174	0 00160
Working Capital	85,000	85,000
Amount of Return	8,500	8,500
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00080	0 00080

	Allocated to West Virginia
[fol. 850] Amortization (Annual Amount to be Amortized):	
Direct Property (Deteriorated Value)	$140,722
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 01328
General Property (Deteriorated Value)	1,895
Divided by Sales of 10,593,248 M. C. F., results in Unit per M. C. F.	0 00018

[fol. 851]

United Fuel Gas Company, Inc.

Revenue Expenses and Return on Investment

Revenue and Expenses Year 1923, Actual

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

West Virginia Distribution

Revenue:	No. of consumers	Average consumption per domestic consumer (C. F.)	Quantity of gas sold (M. C. F.)	Average at 1923 rates		Total revenue
Domestic	32,566	178,589	5,811,644	21.39¢		$1,243,145
Industrial	68		4,781,604	18.93¢		904,957
Total Gas Earnings			10,593,248			$2,148,102
Miscellaneous Income						7,373
Total Gross Income						$2,155,475
Expense:						
Production					$530,237	
Transmission					134,593	
Distribution					281,208	
Total					$946,038	

UEBELACKER EXHIBIT No. 5—Continued

Depreciation:		
Production	$44,998	
Transmission	131,962	
Distribution	79,212	
General (Distribution)	9,138	
General (Balance)	4,586	
Total	$269,896	
Amortization:		
Proven Acreage	$420,783	
Unproven "	67,431	
Productive System (Plant not Depletable)	41,986	
Transmission System	160,767	
Distribution System	140,722	
General Property (Distribution System)	1,895	
General Property (Balance)	3,287	
Total	$836,871	
Depletion	356,319	
Total Operating Expense		2,409,124
Net Income		$253,649*

[fol. 852]

Valuation:	Reproduction new	Less observed deterioration
Production	$10,687,603	$10,488,952
Transmission	3,576,904	3,037,232
Distribution	2,835,719	2,380,622
General (Distribution)	184,641	169,558
General (Balance)	139,977	123,013
Working Capital—Production	153,915	153,915
Working Capital—Transmission	38,913	38,913
Working Capital—Distribution	85,000	85,000
Total Valuation	$17,702,672	$16,477,205
Per Cent Return on Valuation	1 433%*	1 539%*

[* Red in copy.]

[fols. 853 & 854] UEBELACKER EXHIBIT NO. 5A

United Fuel Gas Company, Incorporated

West Virginia Distribution

Analyses of Expenses and Return on Investment per M. C. F. and in Total

Allocated to Domestic and Industrial Business on Basis of Maximum Demand

Expenses and Sales, Year 1923, Actual

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration

[fol. 855] United Fuel Gas Company, Inc.

Notes on Analysis of Expenses and Return on Investment Maximum Demand Basis

Allocation on Demand Responsibility:

Expenses, (except production expenses) depreciation, amortization (except leaseholds and natural gas rights) and depletion charges, return on investment and valuation of property, going to make up the city gate rate, have been allocated to the domestic business and industrial business in proportion to the maximum demand of each. The maximum demand responsibility of each has been measured by the quantity of gas taken in West Virginia by the domestic and industrial consumers in the four coldest three-day periods in the years 1922, 1923 and January 1924. This results in 75 per cent of the above being charged to domestic business and 25 per cent to industrial business. Production expenses and amortization of leaseholds and natural gas rights have been allocated on basis of gas sales.

Distribution charges have been allocated upon the basis of estimated cost of service to the domestic and industrial consumers respectively. This estimate results in 90 per cent of distribution charges being made to domestic business and 10 per cent to industrial business.

The amounts which have been allocated in accordance with the above are the same as shown in the details to statements entitled Analyses of Expenses and Return on Investment per M. C. F. and in Total; Expenses and Sales, Year 1923, Actual; Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration.

[fol. 856] United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales Year 1923, Actual Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales, West Virginia Distribution—Return at 8 per cent

	Domestic		Industrial	
Expense:	New	Cost per M less deterioration	New	Cost per M less deterioration
Production	$0 05005	$0 05005	$0 05005	$0 05005
Transmission	01737	01737	00704	00704
Total	06742	06742	05709	05709
Depreciation:				
Production	00581	00581	00235	00235
Transmission	01703	01703	00690	00690
General (Less General in Distribution)	00059	00059	00024	00024
Total	02343	02343	00949	00949

UEBELACKER EXHIBIT No. 5A—Continued

	Domestic		Industrial	
Return:	New	Cost per M less deterioration	New	Cost per M less deterioration
Production	03693	03135	01496	01270
Transmission	11034	10829	04470	04387
General (Less General in Distribution)	00145	00127	00059	00051
Working Capital—Production	00159	00159	00064	00064
" " —Transmission	00040	00040	00016	00016
Total	15071	14290	06105	05788
Amortization:				
Proven Acreage	03972	03972	03972	03972
Unproven "	00637	00637	00637	00637
Production System (Plant not Depletable)	00542	00542	00220	00220
Transmission "	02075	02075	00841	00841
General Property	00042	00042	00017	00017
Total	07268	07268	05687	05687
Depletion	04598	04598	01863	01863
Total City Gate Rate	$0 39922	$0 35241	$0 20313	$0 19996

Distribution:

Expense	04355	04355	00588	00588
Depreciation—Distribution Property	01227	01227	00166	00166
" —General "	00142	00142	00019	00019
Return —Distribution "	03513	02949	00474	00398
" —General "	00229	00210	00031	00028
" —Working Capital	00105	00105	00014	00014
Amortization—Distribution Property	02179	02179	00294	00294
" —General "	00029	00029	00004	00004
Total	$0 11779	$0 11196	$0 01590	$0 01511
Total Distribution Rate	$0 47801	$0 46437	$0 21903	$0 21507

[fol. 857]

Return at 10 per Cent

Expense:

Production	$0 05005	$0 05005	$0 05005	$0 05005
Transmission	01737	01737	00704	00704
Total	06742	06742	05709	05709

Ebbelacker Exhibit No. 5a—Continued

	Domestic		Industrial	
Depreciation:	New	Cost per M less deterioration	New	Cost per M less deterioration
Production	00581	00581	00235	00235
Transmission	01703	01703	00690	00690
General (Less General in Distribution)	00059	00059	00024	00024
Total	02343	02343	00949	00949
Return:				
Production	13793	13536	05588	05484
Transmission	04616	03920	01870	01588
General (Less General in Distribution)	00181	00159	00073	00064
Working Capital—Production	00199	00199	00080	00080
" " —Transmission	00050	00050	00020	00020
Total	18839	17864	07631	07236
Amortization:				
Proven Acreage	03972	03972	03972	03972
Unproven "	00637	00637	00637	00637
Production System (Plant not Depletable)	00542	00542	00220	00220

Transmission "	02075	02075	00841	00841
General Property	00942	00942	00017	00017
Total	07268	07268	05687	05687
Depletion	04598	04598	01863	01863
Total City Gate Rate	$0 39790	$0 38815	$0 21839	$0 21444
Distribution:				
Expense	04355	04355	00588	00588
Depreciation—Distribution Property	01227	01227	00166	00166
" —General "	00142	00142	00019	00019
Return —Distribution "	04391	03687	00593	00498
" —General "	00286	00263	00039	00035
" —Working Capital	00132	00132	00018	00018
Amortization—Distribution Property	02179	02179	00294	00294
" —General "	00029	00029	00004	00004
Total	$0 12741	$0 12014	$0 01721	$0 01622
Total Distribution Rate	$0 52531	$0 50829	$0 23560	$0 23066

Ueberlacker Exhibit No. 5a—Continued

[fol. 856]

United Fuel Gas Company, Inc.

Revenue, Expenses, and Return on Investment

Revenue and Expenses, Year 1923, Actual

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales

West Virginia Distribution

	No. of consumers	Average consumption per consumer per year (M c. f.)	Quantity of gas sold (M c. f.)	Average at 1923 rates	Domestic		Industrial	
Revenue					Revenue		Revenue	
Domestic	32,500	178.500	5,811,644	21.39¢	$1,243,145			
Industrial	68		4,781,994	18.95¢				$904,957
Miscellaneous Income					7,373			
Total Income			10,593,248		$1,250,518			$904,957
Expenses:								
Production					$578,867		$230,340	
Transmission					100,945		33,648	
Distribution					253,087		28,121	
Total					$944,929		$301,109	

Depreciation			
Production	$33,749		$11,249
Transmission	98,972		32,990
Distribution	71,291		7,921
General—Distribution System	8,224		914
" —Balance	3,440		1,146
Total	$215,676		$54,220
Amortization:			
Proven Acreage	$230,849		$180,934
Unproven Acreage	30,904		30,437
Production System (Plant not Depletable)	31,490		10,496
Transmission "	120,575		40,192
Distribution "	120,959		14,072
General Property—Distribution System	1,706		189
" —Balance	2,165		822
Total	$550,729		$286,142
Depletion	207,259		83,080
Total Operating Expense		$1,013,073	$730,551
Net Income		$108,055*	$171,406

[*Red in copy.]

Uebelacker Exhibit No. 5a—Continued

[fol. 859]

United Fuel Gas Company, Inc.

Revenue, Expenses and Return on Investment

Revenue and Expenses, Year 1923, Actual

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Allocation Based Upon Maximum Demand Responsibility of Domestic and Industrial Sales

West Virginia Distribution (Concluded)

Valuation:	Domestic		Industrial	
	New	Less observed deterioration	New	Less observed deterioration
Production	$8,015,702	$7,866,714	$2,671,901	$2,622,238
Transmission	2,682,678	2,277,924	894,226	759,308
Distribution	2,552,147	2,142,560	283,572	238,062
General—Distribution System	196,177	152,602	18,464	16,956
" —Balance	104,983	92,260	34,994	30,753
Working Capital—Production	115,436	115,436	38,479	38,479
" " —Transmission	29,185	29,185	9,728	9,728
" " —Distribution	76,500	76,500	8,500	8,500
Total Valuation	$13,742,808	$12,753,181	$3,959,864	$3,724,024
Per Cent Return on Valuation	3 115%*	3 356%*	4 404%	4 683%

[*Red in copy]

[fols. 860 & 861] UEBELACKER EXHIBIT No. 6

United Fuel Gas Company, Incorporated

West Virginia Distribution

Analyses of Expenses and Return on Investment per M C. F. and in Total

Expenses and Sales, Year 1923, Actual

Adjusted by Deduction of 3% of Expenses and Property Handling Natural Gas with Gasoline Content

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration

[fol. 862] United Fuel Gas Company, Inc.

Notes on Analyses of Expenses and Return on Investment

Gasoline Allowance:

Allowance has been made for the use of natural gas property by the gasoline extraction business. This allowance is taken as 3 per cent of (a) all Production System Expenses and Property with accompanying charges for depreciation, amortization and return; (b) Transmission System Pipe Line Expenses and Property with accompanying charges based upon that part of the system located East of Ona Gasoline Station, South of Sandyville Gasoline Station and that part located in the Triple State (Kermit) Field; and (c) all Compressing Station Expenses and Property with accompanying charges. No deduction has been taken with regard to Leaseholds and Natural Gas Rights, valuation or amortization, because this value is based upon gas from which the gasoline has been removed.

Otherwise, Expenses and Sales are as shown by Company financial statements for year 1923.

Warfield Natural Gas Co. and Cabin Creek Gas Co. expenses and sales (except intercompany) have been consolidated with United Fuel Gas Co. Allowance has been made for general expenses applicable to Cabin Creek Gas Co. oil and gasoline operations. Allocation of general expenses

to Virginian Gasoline and Oil Co. have been accepted as accurate as made by Company.

[fol. 863] Depreciation:

Depreciation has been determined for each class of material by applying percentage rates determined for each class. Basis is Estimated Cost of Reproduction New except as noted in Production System.

Amortization:

Amortization of Proven Acreage is based upon the depletion of gas content at the value per M C. F. fixed in Valuation Report as of December 31, 1923. Amortization of Unproven acreage is based upon the average length of time which the Company has held unproven acreage before abandoning it.

Amortization of Physical Property has been based upon the Deteriorated value of the Property which the Company will not be able to salvage.

Depletion:

Depletion has been based upon the depletable value of wells and field lines as set forth in Valuation Report as of December 31, 1923.

Return:

In every calculation of return the deteriorated value only of Gas Wells has been used.

Allocation to West Virginia:

Production System units have been considered on basis of total gas sold.

[fol. 864] Transmission System Expenses, Depreciation, Amortization and Return on Investment have been allocated to West Virginia on basis of gas sales, except where pipe lines are concerned. In the case of pipe lines the allocation has been made on the basis of miles of main located in West Virginia and Kentucky, excluding the section of Kentucky extending North and West from the State line

along the Ohio River. This system has been considered as handling all gas sold except field sales. The balance of the system in Kentucky and the system in Ohio have been considered as handling only the gas sold along the Ohio River in Kentucky and in Ohio. In other words, the gas sold in the last named section is considered as having been handled twice.

Distribution System property and expenses are as actually located or segregated in the various distribution plants.

Working Capital is allocated on the basis of expenses incurred in operating the plant in each state and system.

[fol. 863] UEBELACKER EXHIBIT No. 6

United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales, Year 1923, Actual Valuation Basis: Estimated Cost of Reproduction New Less Observed Deterioration as of December 31, 1923

Return at 8 per Cent

Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

	Cost per M reproduction new		Cost per M less observed deterioration	
Expense:				
Production	$0 04855		$0 04855	
Transmission	01241		01241	
		$0 06096		$0 06096
Depreciation:				
Production	00412		00412	
Transmission	01220		01220	
General (Less General in Distribution)	00042		00042	
		01674		01674
Return:				
Production	08015		07870	
Transmission	02644		02246	
General (Less General in Distribution)	00103		00090	

Working Capital—Production	00113		00113	
" " —Transmission	00029		00029	
		10904		10348
Amortization:				
Proven Acreage	03972		03972	
Unproven "	00637		00637	
Production System (Plant not Depletable)	00396		00396	
Transmission "	01518		01518	
General Property	00031		00031	
		06554		06554
Depletion		03263		03263
Total City Gate Rate		$0 28491		$0 27935
Distribution:				
Expense	02655		02655	
Depreciation—Distribution Property	00748		00748	
" —General Property	00086		00086	
Return—Distribution Property	02142		01798	
" —General Property	00139		00128	
" —Working Capital	00054		00064	
Amortization—Distribution Property	01328		01328	
" —General Property	00018		00018	
		07180		06825
Total Distribution Rate		$0 35671		$0 34760

UEBELACKER EXHIBIT No. 6—Continued

[fol. 866]

United Fuel Gas Company, Inc.
Details of Analysis of Expenses and Return on Investment

	Total	Allocated to W. Va.
Production Expense:		
Total Expenses	$2,354,561	
Less 3% for Gasoline Operations	70,637	
Balance	$2,283,924	$2,283,924
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0.04855
Transmission Expense:		
Transmission Lines and Compressing Stations Expense (Handling Wet Gas)		$451,041
Balance		129,046
Total		$580,087
Less 3% for Gasoline Operations		13,531
Balance		$566,556
Dividing this balance by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.		0.01241

Depreciation (Annual Amount of Depreciation):	
Production System	$199,819
Less 3% for Gasoline Operations	5,995
Balance	$193,824
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M C. F.	0 00412
Transmission System—Transmission Lines and Compressing Stations (Handling Wet Gas)	$396,026
Balance	172,719
Total	$568,745
Less 3% for Gasoline Operations	11,881
Balance	$556,864
Dividing this balance by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.	0 01220
[fol. 867] General Property not applicable to Dist. System	$20,365
Less 3% for Gasoline Operations	611
Balance	$19,754
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.	0.00042

UEBELACKER EXHIBIT No. 6—Continued

	Allocated to W. Va.	
	New	Less deterioration
Return on Investment at 8%:		
Production System—Leasehold:		
Valuation	$36,449,176	$36,449,176
Amount of Return	2,915,934	2,915,934
Production System—Balance	11,010,043	10,127,920
Amount of Return	880,803	810,234
Total Amount of Return	$3,796,737	$3,726,168
Less 3% for Gasoline Operations	26,424	24,307
Balance	$3,770,313	$3,701,861
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.	0.08015	0.07870
Transmission System:		
Transmission Lines and Compressing Station (Handling Wet Gas) Valuation	$10,811,962	$9,156,604
Amount of Return	864,957	732,528
Balance	4,604,245	3,933,654
Amount of Return	368,341	314,693
Total Return	$1,233,298	$1,047,221

Less 3% for Gasoline Operations	25,949	21,976
Balance	$1,207,349	$1,025,245
Dividing this balance by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.	0.02644	0.02246
[fol. 868] General Property (not applicable to Dist. System)	$621,578	$546,251
Amount of Return	49,726	43,701
Less 3% for Gasoline Operations	1,492	1,311
Balance	$48,234	$42,390
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.	0.00103	0.00090
Working Capital—Production System	$683,475	$683,475
Amount of Return	54,678	54,678
Less 3% for Gasoline Operations	1,640	1,640
Balance	$53,038	$53,038
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.	0.00113	0.00113

UEBELACKER EXHIBIT No. 6—Continued

	Total	Allocated West Va.
Working Capital—Transmission System Transmission Lines and Compressing Station (Handling Wet Gas)	$130,395	$130,395
Amount of Return	10,432	10,432
Balance	37,316	37,316
Amount of Return	2,985	2,985
Total Return	$13,417	$13,417
Less 3% for Gasoline Operations	313	313
Balance	$13,104	$13,104
Dividing this balance by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.	0.00029	0.00029
[fol. 862] Amortization (Annual Amount to be Amortized):		
Leaseholds—Proven Acreage		$1,868,524
Dividing this amount by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0.03972
Leaseholds—Unproven Acreage		299,432
Dividing this amount by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0.00637
Production System (Plant not Depletable)		186,441
Dividing this amount by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F		0.00396

Transmission System		692,894
Dividing this amount by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.		0.01518
General Property (Less General in Distribution)		14,597
Dividing this amount by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0.00031
Depletion:		
Total amount of annual depletion		$1,582,266
Less 3% for Gasoline Operations		47,468
Balance		$1,534,798
Dividing this balance by total sales of 47,040,235 M. C. F. results in unit per M. C. F.		0.03263
Distribution:		
Total Expense	$399,860	281,208
Divided by Sales through Distribution Plants of 10,593,248 M. C. F. results in unit per M. C. F.		0.02655
[fol. 870] Depreciation (Annual Amount of Depreciation):		
Direct Property		$79,212
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.		0.00748
General Property (applicable to Dist. System).		9,138
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.		0.00086

UEBELACKER EXHIBIT NO. 6—Continued

	Allocated to W. Va	
Return on Investment at 8%:	New	Less deterioration
Direct Property Valuation	$2,835,719	$2,380,622
Amount of Return	226,858	190,450
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	0.02142	.01798
General Property Valuation	184,641	169,558
Amount of Return	14,771	13,565
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	0.00139	0.00128
Working Capital	85,000	85,000
Amount of Return	6,800	6,800
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	.00064	.00064
Amortization (Annual Amount to be Amortized):		
Direct Property	140,722	
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	0.01328	
General Property (applicable to Dist. System)	1,895	
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	0.00018	

Analysis of Expenses and Return on Investment Based on Expenses and Sales, Year 1923, Actual Valuation Basis: Estimated Cost of Reproduction New Less Observed Deterioration as of December 31, 1923

Return at 10 per Cent

Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

	Cost per M reproduction new		Cost per M less observed deterioration	
Expense:				
Production	$0 04855		$0 04855	
Transmission	01241		01241	
		$0 06096		$0 06096
Depreciation:				
Production	00412		00412	
Transmission	01220		01220	
General (Less General in Distribution)	00042		00042	
		01674		01674
Return:				
Production	10019		09837	
Transmission	03306		02807	
General (Less General in Distribution)	00128		00113	
Working Capital—Production	00141		00141	
" " —Transmission	00036		00036	
		13630		12934

Ubbelacker Exhibit No. 6—Continued

	Cost per M reproduction new		Cost per M less observed deterioration	
Amortization:				
Proven Acreage	03972		03972	
Unproven "	00637		00637	
Production System (Plant not Depletable)	00396		00396	
Transmission "	01518		01518	
General Property	00031		00031	
		06554		06554
Depletion		03263		03263
Total City Gate Rate		$0 31217		$0 30521
Distribution:				
Expense	02655		02655	
Depreciation—Distribution Property	00748		00748	
" —General Property	00086		00086	
Return—Distribution Property	02677		02247	
" —General Property	00174		00160	
" —Working Capital	00080		00080	
Amortization—Distribution Property	01328		01328	
" —General Property	00018		00018	
		07766		07322
Total Distribution Rate		$0 38983		$0 37843

Uebelacker Exhibit No. 6a—Continued

[fol. 872]

United Fuel Gas Company, Inc.

Details of Analysis of Expenses and Return on Investment

	Total	Allocated to W. Va.
Production Expense:		
Total Expenses	$2,354,561	
Less 3% for Gasoline Operations	70,637	
Balance	$2,283,924	$2,283,924
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0.04855
Transmission Expense:		
Transmission Lines and Compressing Stations Expense (Handling Wet Gas)		$451,041
Balance		129,046
Total		$580,087
Less 3% for Gasoline Operations		13,531
Balance		$566,556

UEBELACKER EXHIBIT No. 6a—Continued

Dividing this balance by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.	0 01241
Depreciation (Annual Amount of Depreciation):	
Production System	$199,819
Less 3% for Gasoline Operations	5,995
Balance	$193,824
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.	0 00412
Transmission System—Transmission Lines and Compressing Stations (Handling Wet Gas)	$396,026
Balance	172,719
Total	$568,745
Less 3% for Gasoline Operations	11,881
Balance	556,864
Dividing this balance by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.	0 01220

[fol. 873] General Property not applicable to Dist. System.		$20,365
Less 3% for Gasoline Operations		611
Balance		$19,754
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0.00042

Return on Investment at 10%:	Allocated to W. Va.	
Production System—Leasehold:	New	Less Deterioration
Valuation	$36,449,176	$36,449,176
Amount of Return	3,644,918	3,644,918
Production System—Balance	11,010,043	10,127,920
Amount of Return	1,101,004	1,012,792
Total Amount of Return	$4,745,922	$4,657,710
Less 3% for Gasoline Operations	33,030	30,384
Balance	$4,712,892	$4,627,326
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.	.10019	0.09837

UEBELACKER EXHIBIT No. 6—Continued

	Allocated to W. Va.	
Transmission System:	New	Less deterioration
Transmission Lines and Compressing Station (Handling Wet Gas) Valuation	$10,811,962	$9,156,604
Amount of Return	1,081,196	915,660
Balance	4,604,245	3,933,654
Amount of Return	460,425	393,366
Total Return	$1,541,621	$1,309,026
Less 3% for Gasoline Operations	32,436	27,470
Balance	$1,509,185	$1,281,556
Dividing this balance by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F	0.03306	.02807
[fol. 874] General Property (not applicable to Dist. System)	$621,578	$546,251
Amount of Return	62,158	54,625
Less 3% for Gasoline Operations	1,865	1,639
Balance	$60,293	$52,986
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.	0 00128	0 00113

Working Capital—Production System	$683,475	$683,475
Amount of Return	68,348	68,348
Less 3% for Gasoline Operations	2,050	2,050
Balance	$66,298	$66,298
Dividing this balance by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.	0 00141	0 00141
Working Capital—Transmission System:		
Transmission Lines and Compressing Station (Handling Wet Gas)	$130,395	$130,395
Amount of Return	13,039	13,039
Balance	37,316	37,316
Amount of Return	3,732	3,732
Total Return	$16,771	$16,771
Less 3% for Gasoline Operations	391	391
Balance	$16,380	$16,380
Dividing this balance by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.	0 00036	0 00036

Uebelacker Exhibit No. 6—Continued

[fol. 875]

Amortization (Annual Amount to be Amortized):	Total	Allocated to W. Va.
Leaseholds—Proven Acreage		$1,868,524
Dividing this amount by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0 03972
Leaseholds—Unproven Acreage		299,432
Dividing this amount by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0 00637
Production System (Plant not Depletable)		186,441
Dividing this amount by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0 00396
Transmission System		692,894
Dividing this amount by Total Sales less Field Sales of 45,656,128 M. C. F. results in unit per M. C. F.		0 01518
General Property (Less General in Distribution)		14,597
Dividing this amount by Total Sales of 47,040,235 M. C. F. results in unit per M. C. F.		0 00031
Depletion:		
Total amount of annual depletion		$1,582,266
Less 3% for Gasoline Operations		47,468
Balance		$1,534,798

Dividing this balance by Total Sales of 47040,235 M. C. F. results in unit per M. C. F.		0 03263
Distribution:		
Total Expense	$399,860	$281,208
Divided by Sales through Distribution Plants of 10,593,248 M. C. F. results in unit per M. C. F.		0 02655
[fol. 876] Depreciation (Annual Amount of Depreciation):		
Direct Property		79,212
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.		0 00748
General Property (applicable to Dist. System)		9,138
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.		0 00086

Uebelacker Exhibit No. 6—Continued

	Allocated to W. Va.	
	New	Less deterioration
Return on Investment at 10%:		
Direct Property Valuation	$2,835,719	$2,380,622
Amount of Return	283,572	238,062
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	0 02677	0 02247
General Property Valuation	184,641	169,558
Amount of Return	18,464	16,956
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	0 00174	00160
Working Capital	85,000	85,000
Amount of Return	8,500	8,500
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	00080	00080
Amortization (Annual Amount to be Amortized):		
Direct Property	140,722	
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	0 01328	
General Property (applicable to Dist. System)	1,895	
Divided by Sales of 10,593,248 M. C. F. results in unit per M. C. F.	0 00018	

Revenue, Expense, and Return on Investment. Revenue as Indicated, Expense, Year 1923, Actual

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

West Virginia Distribution

Revenue	Consumers No. of	Average consumption per consumer (M c. f.)	Quantity of gas sold (M c. f.)	Average present rates	Revenue
Domestic	32 566	178 5	5,811,644	21 39¢	$1,243,145
Industrial	68		4,781,604	18 93¢	904,957
Total Gas Earnings			10,593,248		$2,148,102
Miscellaneous Income					7,373
Total Gross Income					$2,155,475

UEBELACKER EXHIBIT No. 6—Continued

Expense:	
Production	$514,329
Transmission	131,454
Distribution	281,208
Total	$926,991
Depreciation:	
Production	$43,648
Transmission	129,205
Distribution	79,212
General—Distribution	9,138
" —Balance	4,449
Total	$265,652
Amortization:	
Proven Acreage	$420,783
Unproven "	67,431
Production System (Plant not Depletable)	41,986
Transmission "	160,767
Distribution "	140,722

General Property (Distribution System)	1,895	
" " (Balance)	3,287	
Total	$836,871	
Depletion	345,630	
Total Operating Expense		2,375,144
Net Income:		$219,669*

[fol. 878] Valuation:

	New	Less observed deterioration
Production	$10,613,220	$10,420,529
Transmission	3,501,645	2,973,496
Distribution	2,835,719	2,380,622
General—Distribution	184,641	169,558
" —Balance	135,777	119,323
Working Capital—Production	149,298	149,298
" " —Transmission	38,005	38,005
" " —Distribution	85,000	85,000
Total Valuation	$17,543,305	$16,335,831
Per Cent Return on Valuation	1 252%*	1 345%*

[*Red in copy.]

[fols. 879 & 880] UEBELACKER EXHIBIT No. 6A

United Fuel Gas Company, Incorporated

West Virginia Distribution

Analyses of Expenses and Return on Investment per M C. F. and in Total

Allocated to Domestic and Industrial Business on Basis of Maximum Demand

Expenses and Sales, Year 1923, Actual

Adjusted by Deduction of 3% of Expenses and Property Handling Natural Gas With Gasoline Content

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration

[fol. 881] United Fuel Gas Company, Inc.

Notes on Analyses of Expenses and Return on Investment Maximum Demand Basis

Allocation on Demand Responsibility:

Expenses, (except production expenses), depreciation, amortization (except leaseholds and natural gas rights) and depletion charges, return on investment and valuation of property, going to make up the city gate rate, have been allocated to the domestic business and industrial business in proportion to the maximum demand of each. The maximum demand responsibility of each has been measured by the quantity of gas taken in West Virginia by the domestic and industrial consumers in the four coldest three-day periods in the years 1922, 1923 and January 1924. This results in 75 per cent of the above being charged to domestic business and 25 per cent to industrial business. Production expenses and amortization of leaseholds and natural gas rights have been allocated on basis of gas sales.

Distribution charges have been allocated upon the basis of estimated cost of service to the domestic and industrial

consumers respectively. This estimate results in 90 per cent of distribution charges being made to domestic business and 10 per cent to industrial business.

The amounts which have been allocated in accordance with the above are the same as shown in the details to statements entitled Analyses of Expenses and Return on Investment per M C. F. and in Total; Expenses and Sales, Year 1923, Actual; Adjusted by deduction of 3 per cent of expenses and property handling natural gas with gasoline content.

[fol. 882] UEBELACKER EXHIBIT No. 6A—Continued

United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales, Year 1923, Actual Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales

West Virginia Distribution—Return at 8 per Cent

	Domestic		Industrial	
Expense:	New	Cost per M less deterioration	New	Cost per M less deterioration
Production	$0 04855	$0 04855	$0 04855	$0 04855
Transmission	01696	01696	00687	00687
Total	06551	06551	05542	05542
Depreciation:				
Production	00563	00563	00228	00228
Transmission	01667	01667	00676	00676

General (Less General in Distribution)	00057	00057	00023	00023
Total	02287	02287	00927	00927
Return:				
Production	10957	10758	04439	04358
Transmission	03615	03070	01465	01244
General (Less General in Distribution)	00140	00123	00057	00050
Working Capital—Production	00154	00154	00062	00062
" " —Transmission	00039	00039	00016	00016
Total	14905	14144	06039	05730
Amortization:				
Proven Acreage	03972	03972	03972	03972
Unproven "	00637	00637	00637	00637
Production System (Plant not Depletable)	00542	00542	00220	00220
Transmission "	02075	02075	00841	00841
General Property	00042	00042	00017	00017
Total	07268	07268	05687	05687
Depletion	04460	04460	01807	01807
Total City Gate Rate	$0 35471	$0 34710	$0 20002	$0 19693

UEBELACKER EXHIBIT No. 6a—Continued

	Domestic		Industrial	
	New	Cost per M less deterioration	New	Cost per M less deterioration
Distribution:				
Expense	04355	04355	00588	00588
Depreciation—Distribution Property	01227	01227	00166	00166
" —General "	00142	00142	00019	00019
Return —Distribution "	03513	02949	00474	00398
" —General "	00229	00210	00031	00028
" —Working Capital	00105	00105	00014	00014
Amortization—Distribution Property	02179	02179	00294	00294
" —General "	00029	00029	00004	00004
Total	$0 1779	$0 11196	$0 01590	$0 01511
Total Distribution Rate	$0 47250	$0 45906	$0 21592	$0 21204
[fol. 883] Expense:				
Production	$0 04855	$0 04855	$0 04855	$0 04855
Transmission	01696	01696	00687	00687
Total	06551	06551	05542	05542
Depreciation:				
Production	00563	00563	00228	00228
Transmission	01667	01667	00676	00676

General (Less General in Distribution)	00057	00057	00023	00023
Total .	02287	02287	00927	00927
Return:				
Production	13697	13448	05549	05448
Transmission	04519	03830	01831	01555
General (Less General in Distribution)	00175	00154	00071	00062
Working Capital—Production	00193	00193	00078	00078
" " —Transmission	00049	00049	00020	00020
Total .	18633	17674	07549	07163
Amortization:				
Proven Acreage	03972	03972	03972	03972
Unproven "	00637	00637	00637	00637
Production System (Plant not Depletable)	00542	00542	00220	00220
Transmission "	02075	02075	00841	00841
General Property	00042	00042	00017	00017
Total .	07268	07268	05687	05687
Depletion .	04460	04460	01807	01807
Total City Gate Rate	$0 39199	$0 38240	$0 21512	$0 21126

UEBELACKER EXHIBIT No. 6A—Continued

	Domestic		Industrial	
Distribution:	New	Cost per M less deterioration	New	Cost per M less deterioration
Expense	04355	04355	00588	00588
Depreciation—Distribution Property	01227	01227	00166	00166
" —General "	00142	00142	00019	00019
Return —Distribution "	04391	03687	00593	00498
" —General "	00286	00263	00039	00035
" —Working Capital	00132	00132	00018	00018
Amortization—Distribution Property	02179	02179	00294	00294
" —General "	00029	00029	00004	00004
Total	$0 12741	$0 12014	$0 01721	$0 01622
Total Distribution Rate	$0 51940	$0 50254	$0 23233	$0 22748

United Fuel Gas Company, Inc.

Revenue, Expenses, and Return on Investment

Revenue as Indicated, Expenses, Year 1923, Actual

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

Allocation Based upon Maximum Demand and Responsibility of Domestic and Industrial Sales

West Virginia Distribution

	No. of consumers	Average consumption per consumer (c. f.)	Quantity of gas sold (M c. f.)	Average at 1923 rates	Domestic		Industrial	
						Revenue		Revenue
Revenue:								
Domestic	32,566	178,500	5,811,644	21.3¢	.....	$1,243,145	.....	.....
Industrial	68	.....	4,781,604	18.9¢	.....	.....	.....	$904,957
Miscellaneous Income	.....	.....	.....	.....	.....	7,373	.....	.....
Total Income			10,593,248	.....	.....	$1,250,518	.....	$904,957
Expense:								
Production						$282,170		$232,159
Transmission						98,590		32,863
Distribution						253,087		28,121
Total						$633,848		$293,143

Uebelacker Exhibit No. 6a—Continued

Depreciation:				
Production	$32,726		$10,912	
Transmission	96,804		32,301	
Distribution	71,291		7,921	
General—Distribution System	8,224		914	
" —Balance	3,337		1,112	
Total	$212,492		$53,160	
Amortization:				
Proven Acreage	$239,849		$189,934	
Unproven Acreage	56,564		30,437	
Production System (Plant not Depletable)	31,490		10,496	
Transmission "	120,575		40,192	
Distribution "	120,650		14,072	
General Property—Distribution System	1,705		190	
" —Balance	2,495		822	
Total	$550,728		$286,143	
Depletion	259,223		$86,407	
Total Operating Expense		$1,056,291		$718,853
Net Income		$405,773*		$186,104

[*Red in copy.]

[fol. 885]

United Fuel Gas Company, Inc.

Revenue, Expenses, and Return on Investment

Revenue as Indicated, Expenses, Year 1923, Actual

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

Allocation Based upon Maximum Demand and Responsibility of Domestic and Industrial Sales

West Virginia Distribution

	Domestic		Industrial	
Valuation:	New	Less observed deterioration	New	Less observed deterioration
Production	$7,959,915	$7,815,397	$2,653,305	$2,605,132
Transmission	2,626,234	2,230,122	875,411	743,374
Distribution	2,552,147	2,142,560	283,572	238,062
General—Distribution System	166,177	152,602	18,464	16,956
" —Balance	101,833	89,492	33,944	29,831
Working Capital—Production	111,974	111,974	37,324	37,324
" " —Transmission	28,504	28,504	9,501	9,501
" " —Distribution	76,500	76,500	8,500	8,500
Total Valuation	$13,623,284	$12,647,151	$3,920,021	$3,688,680
Per Cent Return on Valuation	*2 978%	*3 208%	4 747%	5 045%

[*Red in copy.]

[fols. 886 & 887] UEBELACKER EXHIBIT No. 7

United Fuel Gas Company, Incorporated

West Virginia Distribution

Analyses of Expenses and Return on Investment per M C. F. and in Total

Expenses and Sales, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration

[fol. 888] United Fuel Gas Company, Inc.

Notes on Analyses of Expenses and Return on Investment

Rates:

Rates used are as shown in Schedule of Rates for Natural Gas (P. S. C., W. Va. No. 4) effective May 31, 1924.

Expenses and Sales:

Allowance has been made for the decline in domestic consumption per consumer which it is estimated will result from increased rates. No change has been considered in Industrial consumption due to increases in rates. The reduction in consumption has been assumed as a reduction in gas purchased, no other expenses have been affected. Expenses and sales are otherwise as shown by Company financial statements for year 1923.

Warfield Natural Gas Co. and Cabin Creek Gas Co. expenses and sales (except intercompany) have been consolidated with United Fuel Gas Co. Allowance has been made for general expenses applicable to Cabin Creek Gas Co. oil and gasoline operations. Allocation of general expenses to Virginian Gasoline & Oil Co. have been accepted as accurate as made by Company.

Depreciation:

Depreciation has been determined for each class of material by applying percentage rates determined for each class. Basis is Estimated Cost of Reproduction New except as noted in Production System.

[fol. 889] Amortization:

Amortization of Proven Acreage is based upon the depletion of gas content at the value per M C. F. fixed in Valuation Report as of December 31, 1923. Amortization of Unproven Acreage is based upon the average length of time during which the Company has held unproven acreage before abandoning it.

Amortization of Physical Property has been based upon the Deteriorated value of the Property which the Company will not be able to salvage.

Depletion:

Depletion has been based upon the depletable value of wells and field lines as set forth in Valuation Report as of December 31, 1923.

Return:

In every calculation of return the deteriorated value only of Gas Wells has been used.

Allocation to West Virginia:

Production System units have been considered on basis of total gas sold.

Transmission System Expenses, Depreciation, Amortization and Return on Investment have been allocated to West Virginia on basis of gas sales, except where pipe lines are concerned. In the case of pipe lines the allocation has been made on the basis of miles of main located in West Virginia and Kentucky, excluding the section of Kentucky extending North and West from the State Line along the Ohio River. This System has been considered as handling all [fol. 890] gas sold except field sales. The balance of the system in Kentucky and the system in Ohio have been considered as handling only the gas sold along the Ohio River in Kentucky and in Ohio. In other words, the gas sold in the last named section is considered as having been handled twice.

Distribution System Property and expenses are as actually located or segregated in the various distribution plants.

Working Capital is allocated on the basis of expenses incurred in operating the plant in each State and system.

[fol. 891] UEBELACKER EXHIBIT No. 7—Continued

United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New Less Observed Deterioration as of December 31, 1923

Return at 8 per Cent

	Cost per M reproduction new		Cost per M less observed deterioration	
Expense:				
Production	$0.04938		$0.04938	
Transmission	.01328		.01328	
		$0.06266		$0.06266
Depreciation:				
Production	.00445		.00445	
Transmission	.01308		.01308	
General (Less General in Distribution)	.00045		.00045	
		.01798		.01798
Return:				
Production	.08461		.08303	
Transmission	.02836		.02408	
General (Less General in Distribution)	.00111		.00097	

Working Capital—Production	.00122		.00122	
" " —Transmission	.00031		.00031	
		.11561		.10961
Amortization:				
Proven Acreage	.04164		.04164	
Unproven Acreage	.00667		.00667	
Production System (Plant not Depletable)	.00415		.00415	
Transmission "	.01593		.01593	
General Property (Less General in Distribution)	.00033		.00033	
		.06872		.06872
Depletion:	.03526	.03526	.03526	.03526
Total City Gate Rate		$0.30023		$0.29423
Distribution:				
Expense	.03336		.03336	
Depreciation —Distribution Property	.00940		.00940	
" —General "	.00108		.00108	
Return —Distribution "	.02691		.02259	
" —General "	.00175		.00161	
" —Working Capital	.00081		.00081	
Amortization—Distribution Property	.01669		.01669	
" —General "	.00022		.00022	
		.09022		.08576
Total Distribution Rate		$0.39045		$0.37999

UEBELACKER EXHIBIT No. 7—Continued

[fol. 892]

United Fuel Gas Company, Inc.

Details of Analysis of Expenses and Return on Investment as Adjusted to Allow for Effect of Increased Rates

	Total	Allocated to W. Va.
Production Expense:		
Total Expenses	$2,354,561	
Less Reduction in Gas Purchased	138,599	
	$2,215,962	$2,215,962
Dividing this total by Total Sales of 44,875,983 M. C. F., results in unit per M. C. F. of		0 04938
Transmission Expense:		
Total Expense	$660,363	577,414
Dividing this total by Total Sales Less Field Sales of 43,491,876 M. C. F., results in unit per M. C. F.		0 01328
Depreciation (Annual Amount of Depreciation):		
Production System (Basis does not include any property considered depletable)		199,819
Dividing this total by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		0 00445
Transmission System		568,745

Dividing this amount by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F. of	0 01308
General Property—Less General in Distribution System	20,365
Dividing this amount by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	0.00045

[fol. 893] Return on Investment at 8%:

	Allocated to W. Va.	
	New	Less deterioration
Production System Valuation	$47,459,219	$46,577,096
Amount of Return.	3,796,738	3,726,168
Divided by Total Sales of 44,875,983 M. C. F. results in unit per M C. F. of	0 08461	0 08303
Transmission System Valuation	15,416,207	13,090,258
Amount of Return.	1,233,297	1,047,221
Divided by Total Sales of 43,491,876 M. C. F. results in unit per M. C. F. of	0 02836	0 02408
General Property (Less General in Distribution) Valuation .	621,578	546,251
Amount of Return	49,726	43,701
Divided by Total Ssles of 44,875,983 M. C. F. results in a unit per M C. F. of	0 00111	0 00097
Working Capital—Production System.	683,475	683,475
Amount of Return.	54,678	54,678
Divided by Total Sales Less Field Sales of 44,875,983 M C. F. results in a unit per M C. F. of	0 00122	0 00122

UEBELACKER EXHIBIT No. 7—Continued

	Allocated to W. Va.	
	New	Less deterioration
Working Capital—Transmission System	166,938	166,938
Amount of Return	13,355	13,355
Divided by Total Sales of 43,491,876 M. C. F results in a unit per M C. F. of	0 00031	0 00031

Amortization (Annual Amount to be Amortized):	Total	Allocated to W. Va.
[fol. 894] Leaseholds—Proven Acreage		$1,868,524
Divided by Total Sales of 44,875,983 M. C. F. results in a unit per M C. F. of		0 04164
Leaseholds—Unproven Acreage		299,432
Divided by Total Sales of 44,875,983 M. C. F. results in a unit per M C. F. of		0 00667
Production System—Plant not Depletable		186,441
Divided by Total Sales of 44,875,983 M. C. F. results in a unit per M C. F. of		0 00415
Transmission System		692,894
Divided by Total Sales less Field Sales of 43,491,876 M C. F. results in a unit per M C. F. of		0 01593
General Property (Less General in Distribution)		14,597
Divided by Total Sales of 44,875,983 M C. F. results in a unit per M C. F. of		0 00033

Depletion		1,582,266
Divided by Total Sales of 44,875,983 M. C. F. results in a unit per M C. F. of		0 03526
Distribution:		
Total Expense	$399,860	281,208
Divided by Sales through Distribution Plants of 8,428,996 M C. F. results in unit per M C. F.		0 03336
Depreciation (Annual Amount of Depreciation):		
Direct Property.		79,212
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of		0 00940
General Property		9,138
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of		0 00108
[fol. 895] Return on Investment at 8%:		
Direct Property Valuation	$2,835,719	$2,380,622
Amount of Return	226,858	190,450
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 02691	0 02259
General Property Valuation	184,641	169,558
Amount of Return	14,771	13,565
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 00175	0 00161
Working Capital	85,000	85,000
Amount of Return.	6,800	6,800
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 00081	0 00081

UEBELACKER EXHIBIT No. 7—Continued

Amortization (Annual Amount to be Amortized):	Total	Allocated to W. Va.
Direct Property (Deteriorated Value)	$140,722	
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 01669	
General Property (Deteriorated Value)	1,895	
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 00022	

[fol. 896] United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New Less Observed Deterioration as of December 31, 1923

Return at 10 per Cent

Expense:	Cost per M reproduction new		Cost per M less observed deterioration	
Production	$0.04938		$0.04938	
Transmission	.01328		.01328	
		$0.06266		$0.06266

Depreciation:				
Production	.00445		.00445	
Transmission	.01308		.01308	
General (Less General in Distribution)	.00045		.00045	
		.01798		.01798
Return:				
Production	.10576		.10379	
Transmission	.03544		.03010	
General (Less General in Distribution)	.00139		.00122	
Working Capital—Production	.00152		.00152	
" " —Transmission	.00038		.00038	
		.14449		.13701
Amortization:				
Proven Acreage	.04164		.04164	
Unproven Acreage	.00667		.00667	
Production System (Plant not Depletable)	.00415		.00415	
Transmission "	.01593		.01593	
General Property (Less General in Distribution)	.00033		.00033	
		.06872		.06872
Depletion	.03526	.03526	.03526	.03526
Total City Gate Rate		$0.32911		$0.32163

UEBELACKER EXHIBIT No. 7—Continued

Distribution:	Cost per M reproduction new		Cost per M less observed deterioration	
Expense	.03336		.03336	
Depreciation—Distribution Property	.00940		.00940	
" —General "	.00108		.00108	
Return —Distribution "	.03364		.02824	
" —General "	.00219		.00201	
" —Working Capital	.00101		.00101	
Amortization—Distribution Property	.01669		.01669	
" —General "	.00022		.00022	
		.09759		.09201
Total Distribution Rate		$0.42670		$0.41364

[fol. 897] United Fuel Gas Company, Inc.

Details of Analysis of Expenses and Return on Investment as Adjusted to allow for Effect of Increased Rates

Production Expense:	Total	Allocated to W. Va.
Total Expenses	$2,354,561	.....
Less Reduction in Gas Purchased	138,599	.....
	$2,215,962	$2,215,962

Dividing this total by Total Sales of 44,875,983 M C. F., results in unit per M C. F. of		0 04938
Transmission Expense:		
Total Expense	$660,363	577,414
Dividing this total by Total Sales Less Field Sales of 43,491,876 M C. F. results in unit per M C. F.		0 01328
Depreciation (Annual Amount of Depreciation):		
Production System (Basis does not include any property considered depletable)		199,819
Dividing this total by Total Sales of 44,875,983 M C. F. results in unit per M C. F. of		0 00445
Transmission System		568,745
Dividing this amount by Total Sales less Field Sales of 43,491,876 M C. F. results in unit per M C. F. of		0 01308
General Property—Less General in Distribution System		20,365
Dividing this amount by Total Sales of 44,875,983 M C. F. results in unit per M C. F. of		0 00045

[fol. 898] Return on Investment at 10%:

	Allocated to W. Va.	
	New	Less deterioration
Production System Valuation	$47,459,219	$46,577,096
Amount of Return	4,745,922	4,657,710

UEBELACKER EXHIBIT No. 7—Continued

	Allocated to W. Va.	
	New	Less deterioration
Divided by Total Sales of 44,875,983 M C. F. results in unit per M C. F. of	0 10576	0 10379
Transmission System Valuation	15,416,207	13,090,258
Amount of Return	1,541,621	1,309,026
Divided by Total Sales of 43,491,876 M C. F. results in unit per M C. F. of	0 03544	0 03010
General Property (Less General in Distribution) Valuation	621,578	546,251
Amount of Return	62,158	54,625
Divided by Total Sales of 44,875,983 M C. F. results in a unit per M C. F. of	0 00139	0 00122
Working Capital—Production System	683,475	683,475
Amount of Return	68,348	68,348
Divided by Total Sales Less Field Sales of 44,875,983 M C. F. results in a unit per M C. F. of	0 00152	0 00152
Working Capital—Transmission System	166,938	166,938
Amount of Return	16,694	16,694
Divided by Total Sales of 43,491,876 M C. F. results in a unit per M C. F. of	0 00038	0 00038

[fol. 899] Amortization (Annual Amount to be Amortized):	Total	Allocated West Va.
Leaseholds—Proven Acreage	.....	$1,868,524
Divided by Total Sales of 44,875,983 M C. F. results in a unit per M C. F. of	.....	0 04164

Leaseholds—Unproven Acreage		299,432
Divided by Total Sales of 44,875,983 M C. F. results in a unit per M C. F. of		0 00667
Production System—Plant not Depletable		186,441
Divided by Total Sales of 44,875,983 M C. F. results in a unit per M C. F. of		0 00415
Transmission System		692,894
Divided by Total Sales less Field Sales of 43,491,876 M C. F. results in a unit per M C. F. of		0 01593
General Property (Less General in Distribution)		14,597
Divided by Total Sales of 44,875,983 M C. F. results in a unit per M C. F. of		0 00033
Depletion		1,582,266
Divided by Total Sales of 44,875,983 M C. F. results in a unit per M C. F. of		0 03526
Distribution:		
Total Expense	$399,860	281,208
Divided by Sales through Distribution Plants of 8,428,996 M C. F. results in unit per M C. F.		0 03336
Depreciation (Annual Amount of Depreciation):		
Direct Property		79,212
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of		0 00940
General Property		9,138
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of		0 00108

UEBELACKER EXHIBIT No. 7—Continued

[fol. 900] Return on Investment at 10%:	Allocated to W. Va. New	Allocated to W. Va. Less deterioration
Direct Property Valuation	$2,835,719	$2,380,622
Amount of Return	283,572	238,062
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 03364	0 02824
General Property Valuation	$184,641	$169,558
Amount of Return	18,464	16,956
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 00219	0 00201
Working Capital	85,000	85,000
Amount of Return	8,500	8,500
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 00101	0 00101

Amortization (Annual Amount to be Amortized):	Total	West Va. Allocated to
Direct Property (Deteriorated Value)	$140,722	.....
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 01669	.....
General Property (Deteriorated Value)	1,895	.....
Divided by Sales of 8,428,996 M C. F. results in unit per M C. F. of	0 00022	.....

[fol. 901]

United Fuel Gas Company, Inc.

Revenue, Expenses, and Return on Investment

Revenue as Indicated, Expenses, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

West Virginia Distribution

	No. of consumers	Average consumption per consumer (C. F.)	Quantity of gas sold (M C. F.)	Rate per M C. F.		Revenue
Revenue:						
Domestic	32,566	112,000	3,647,392	38.49¢ (av.)		$1,404,027
Industrial	68	.....	4,781,604	23.41¢ (")		1,119,552
Total Gas Earnings			8,428,996			$2,523,579
Miscellaneous Income						7,500
Total Gross Income						$2,531,079
Expense:						
Production					$416,222	
Transmission					111,906	
Distribution					281,208	
Total					$809,336	

UEBELACKER EXHIBIT No. 7—Continued

Depreciation:		
Production	$37,532	
Transmission	110,226	
Distribution	79,212	
General Property (Distribution System)	9,138	
" " (Balance)	3,825	
Total	$239,933	
Amortization:		
Proven Acreage	$350,963	
Unproven "	56,242	
Production System (Plant not Depletable)	35,019	
Transmission "	134,287	
Distribution "	140,722	
General Property (Distribution System)	1,895	
" " (Balance)	2,742	
Total	$721,870	
Depletion	297,195	
Total Operating Expense		2,068,334
Net Income		$462,745

[fol. 902]

Valuation:	New	Less observed deterioration
Production	$8,914,218	$8,748,529
Transmission	2,987,753	2,536,971
Distribution	2,835,710	2,380,622
General—Distribution System	184,641	169,558
" —Balance	116,750	102,602
Working Capital—Production	128,376	128,376
" " —Transmission	32,354	32,354
" " —Distribution	85,000	85,000
Total Valuation	$15,284,802	$14,184,012
Per Cent Return on Valuation	3.027%	3.262%

[fols. 903 & 904] UEBELACKER EXHIBIT No. 7A

United Fuel Gas Company, Incorporated

West Virginia Distribution

Analyses of Expenses and Return on Investment per M C. F. and in Total

Allocated to Domestic and Industrial Business on Basis of Maximum Demand

Expenses and Sales, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration

[fol. 905] United Fuel Gas Company, Inc.

Notes on Analyses of Expenses and Return on Investment Maximum Demand Basis

Allocation on Demand Responsibility:

Expenses (except production expenses), depreciation, amortization (except leaseholds and natural gas rights) and depletion charges, return on investment and valuation of property, going to make up the city gate rate, have been allocated to the domestic business and industrial business in proportion to the maximum demand of each. The maximum demand responsibility of each has been measured by the quantity of gas taken in West Virginia by the domestic and industrial consumers in the four coldest three-day periods in the years 1922, 1923 and January 1924. This results in 68 per cent of the above being charged to domestic business and 32 per cent to industrial business after considering the effect of increased rates on domestic consumption. Production expenses and amortization of leaseholds and natural gas rights have been allocated on basis of gas sales.

Distribution charges have been allocated upon the basis of estimated cost of service to the domestic and industrial consumers respectively. This estimate results in 90 per cent of distribution charges being made to domestic business and 10 per cent to industrial business.

The amounts which have been allocated in accordance with the above are the same as shown in the details attached [fol. 906] to statements entitled Analyses of Expenses and Return on Investment per M C. F. and in Total; Expenses and Sales, Year 1923, as adjusted to allow for effect of increased rates on domestic consumption in West Virginia.

[fol. 907] UEBELACKER EXHIBIT No. 7a—Continued

United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales, West Virginia Distribution

Return at 8 per Cent

	Domestic		Industrial	
	New	Cost per M less deterioration	New	Cost per M less deterioration
Expense:				
Production	$0.04938	$0.04938	$0.04938	$0.04938
Transmission	.02086	.02086	.00749	.00749
Total	.07024	.07024	.05687	.05687
Depreciation:				
Production	.00700	.00700	.00251	.00251
Transmission	.02055	.02055	.00738	.00738

General (Less General in Distribution)	.00071	.00071	.00026	.00026
Total	.02826	.02826	.01015	.01015
Return:				
Production	.13295	.13048	.04772	.04684
Transmission	.04456	.03783	.01600	.01358
General (Less General in Distribution)	.00174	.00153	.00063	.00055
Working Capital—Production	.00191	.00191	.00069	.00069
" " —Transmission	.00048	.00048	.00017	.00017
Total	.18164	.17223	.06521	.06183
Amortization (Deter. Value):				
Proven Acreage	.04164	.04164	.04164	.04164
Unproven "	.00667	.00667	.00667	.00667
Production System (Plant not Depletable)	.00653	.00653	.00234	.00234
Transmission	.02504	.02504	.00899	.00899
General Property	.00051	.00051	.00018	.00018
Total	.08039	.08039	.05982	.05982
Depletion	.05541	.05541	.01989	.01989
Total City Gate Rate	$0 41594	$0 40653	$0 21194	$0 20856

UEBELACKER EXHIBIT No. 7a—Continued

	Domestic		Industrial	
Distribution:	New	Cost per M less deterioration	New	Cost per M less deterioration
Expense	.06939	.06939	.00588	.00588
Depreciation—Distribution Property	.01955	.01955	.00166	.00166
" —General "	.00225	.00225	.00019	.00019
Return —Distribution "	.05598	.04699	.00474	.00398
" —General "	.00364	.00335	.00031	.00028
" —Working Capital	.00168	.00168	.00014	.00014
Amortization—Distribution Property	.03472	.03472	.00294	.00294
" —General "	.00047	.00047	.00004	.00004
Total	$0.18768	$0.17840	$0.01590	$0.01511
Total Distribution Rate	$0.60362	$0.58493	$0.22784	$0.22367
[fol. 908] Expense:				
Production	$0.04938	$0.04938	$0.04938	$0.04938
Transmission	.02086	.02086	.00749	.00749
Total	.07024	.07024	.05687	.05687

Depreciation:				
Production	.00700	.00700	.00251	.00251
Transmission	.02055	.02055	.00738	.00738
General (Less General in Distribution)	.00071	.00071	.00026	.00026
Total	.02826	.02826	.01015	.01015
Return:				
Production	.16619	.16310	.05966	.05855
Transmission	.05570	.04730	.01999	.01698
General (Less General in Distribution)	.00218	.00191	.00078	.00069
Working Capital—Production	.00239	.00239	.00086	.00086
" " —Transmission	.00060	.00060	.00022	.00022
Total	.22706	.21530	.08151	.07730
Amortization (Deter. Value):				
Proven Acreage	.04164	.04164	.04164	.04164
Unproven "	.00667	.00667	.00667	.00667
Production System (Plant not Depletable)	.00653	.00653	.00234	.00234
Transmission	.02504	.02504	.00899	.00899
General Property	.00051	.00051	.00018	.00018
Total	.08039	.08039	.05982	.05982
Depletion	.05541	.05541	.01989	.01989
Total City Gate Rate	$0.46136	$0.44960	$0.22824	$0.22403

UEBELACKER EXHIBIT No. 7a—Continued

Distribution:	Domestic		Industrial	
	New	Cost per M less deterioration	New	Cost per M less deterioration
Expense	.06939	.06939	.00588	.00588
Depreciation—Distribution Property	.01955	.01955	.00166	.00166
" —General "	.00225	.00225	.00019	.00019
Return —Distribution "	.06997	.05874	.00593	.00498
" —General "	.00456	.00418	.00039	.00035
" —Working Capital	.00210	.00210	.00018	.00018
Amortization—Distribution Property	.03472	.03472	.00294	.00294
" —General "	.00047	.00047	.00004	.00004
Total	$0.20301	$0.19140	$0.01721	$0.01622
Total Distribution Rate	$0.66437	$0.64100	$0.24545	$0.24025

[fol. 909] United Fuel Gas Company, Inc.

Revenue, Expenses, and Return on Investment

Revenue as Indicated, Expenses Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia. Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

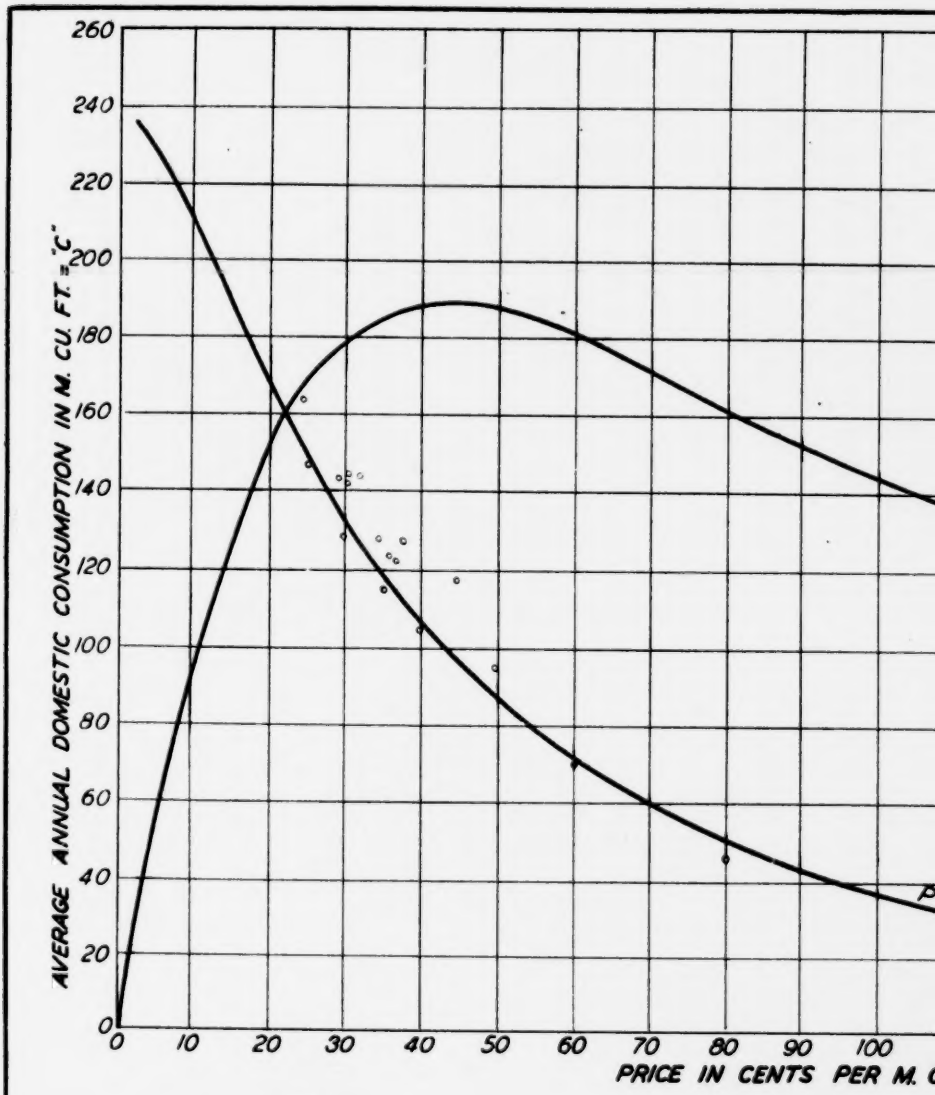
Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales

West Virginia Distribution

	No. of consumers	Average consumption per consumer (c. f.)	Quantity of gas sold (M c. f.)	Rates	Domestic Revenue	Industrial Revenue
Revenue:						
Domestic	32,566	112,000	3,647,392	38.49 (av.)	$1,404,027	
Industrial	68	.....	4,781,604	23.41 (av.)	.....	$1,119,552
Miscellaneous Income	.....	.....	.....	.....	7,500	.....
Total Income			8,428,996	.....	$1,411,527	$1,119,552
Expense:						
Production					$180,108	$236,114
Transmission					76,096	35,810
Distribution					253,087	28,121
Total					$509,291	$300,045

Uebelacker Exhibit No. 7a—Continued

	Domestic		Industrial	
Depreciation:		Revenue		Revenue
Production	$25,522		$12,010	
Transmission	74,954		35,272	
Distribution	71,291		7,921	
General—Distribution System	8,244		914	
" —Balance	2,601		1,224	
Total	$182,592		$57,341	
Amortization:				
Proven Acreage	$151,869		$199,094	
Unproven Acreage	24,337		31,905	
Production System (Plant not Depletable)	23,813		11,206	
Transmission "	91,315		42,972	
Distribution "	126,650		14,072	
General Property—Distribution	1,706		189	
" " —Balance	1,865		877	
Total	$421,555		$300,315	
Depletion	202,093		95,102	
Total Operating Expense		1,315,531		752,803
Net Income		$95,996		$366,749

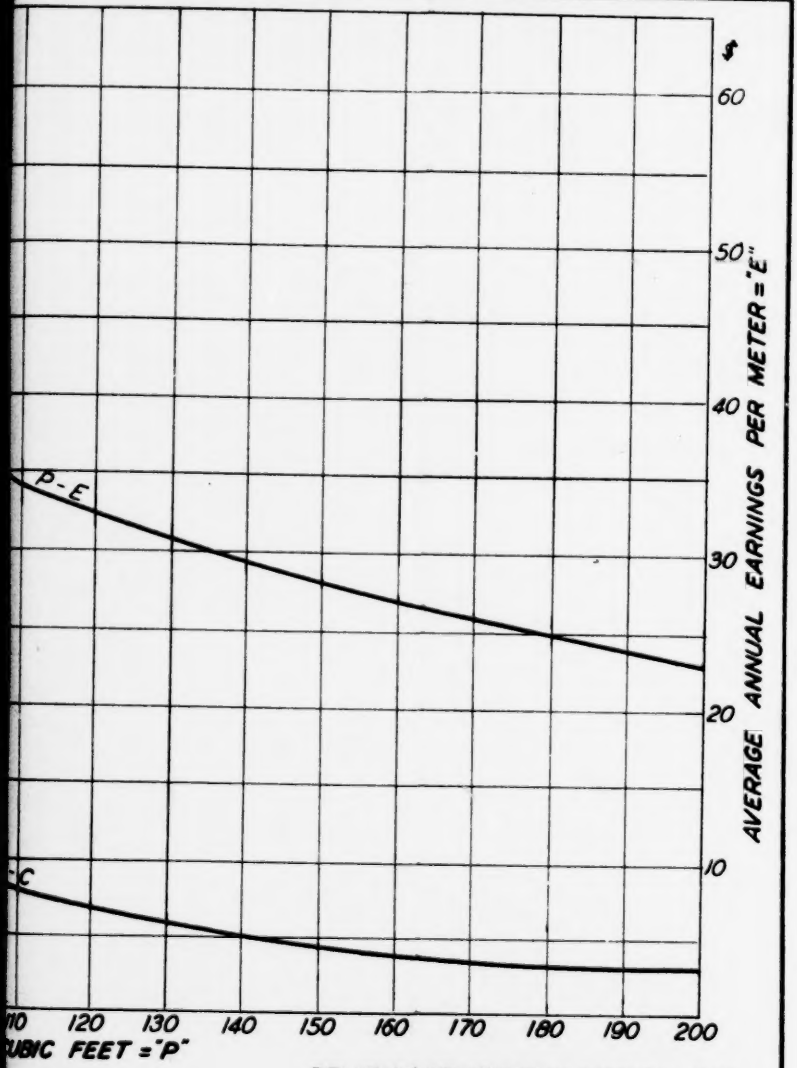


$$C = \frac{250}{1 + \left(\frac{P}{375}\right)^{10}} \qquad E = CP$$

Based on informati
Dominion Gas Co. of
East Ohio Gas Co. of Cle
Kansas City Gas Co. of

U. 550

UEBELACKER EX. Nº 7-B



RELATION OF DOMESTIC NATURAL GAS CONSUMPTION TO PRICE

n from
uffalo, N.Y.
eland, O. and
ansas City, Mo.

FORD, BACON & DAVIS
INCORPORATED
Engineers
NEW YORK
PHILADELPHIA - CHICAGO - SAN FRANCISCO

910-A

[fol. 910]

United Fuel Gas Company, Inc.

Revenue, Expenses, and Return on Investment

30—439

Revenue, as Indicated, Expenses, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales West Virginia Distribution

	Domestic		Industrial	
Valuation:	New	Cost per M less deterioration	New	Cost per M less deterioration
Production	$6,061,668	$5,949,000	$2,852,550	$2,799,529
Transmission	2,031,672	1,725,140	856,081	811,831
Distribution	2,552,139	2,142,560	283,571	238,062
General—Distribution System	166,177	152,602	18,464	16,956
" —Balance	79,390	69,769	37,360	32,833
Working Capital—Production	87,296	87,296	41,080	41,080
" " —Transmission	22,001	22,001	10,353	10,353
" " —Distribution	76,500	76,500	8,500	8,500
Total Valuation	$11,076,843	$10,224,868	$4,207,959	$3,959,144
Per Cent Return on Valuation	.867%	.939%	8.716	9.263%

(Here follows Uelebacker Exhibit No. 7 B, marked side folio page 910a)

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[fols. 911 & 912] UEBELACKER EXHIBIT No. 8

United Fuel Gas Company Incorporated

West Virginia Distribution

Analyses of Expenses and Return on Investment per M C. F. and in Total

Expenses and Sales, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia, and Also Adjusted by Deduction of 3% of Expenses and Property Handling Natural Gas with Gasoline Content

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration

[fol. 913] United Fuel Gas Company, Inc.

Notes on Analyses of Expenses and Return on Investment

Rates:

Rates used are as shown in Schedule of Rates for Natural Gas (P. S. C., W. Va. No. 4) effective May 31, 1924.

Expenses and Sales:

Allowance has been made for the decline in domestic consumption per consumer which it is estimated will result from increased rates. No change has been considered in Industrial consumption due to increases in rates. The reduction in consumption has been assumed as a reduction in gas purchased, no other expenses have been affected.

Gasoline Allowance:

Allowance has been made for the use of natural gas property by the gasoline extraction business. This allowance is taken as 3 per cent of (a) all Production System Expenses and Property with accompanying charges for depreciation, amortization and return; (b) Transmission System Pipe Line Expenses and Property with accompanying charges based upon that part of the system located East

of Ona Gasoline Station, South of Sandyville Gasoline Station and that part located in the Triple State (Kermit) Field; and (c) all Compressing Station Expenses and Property with accompanying charges. No deduction has been taken with regard to Leaseholds and Natural Gas Rights, [fol. 914] valuation or amortization, because this value is based upon gas from which the gasoline has been removed.

Otherwise, Expenses and Sales are as shown by Company financial statements for year 1923.

Warfield Natural Gas Co. and Cabin Creek Gas Co. expenses and Sales (except intercompany) have been consolidated with United Fuel Gas Co. Allowance has been made for general expenses applicable to Cabin Creek Gas Co. oil and gasoline operations. Allocation of general expenses to Virginian Gasoline & Oil Co. have been accepted as accurate as made by Company.

Depreciation:

Depreciation has been determined for each class of material by applying percentage rates determined for each class. Basis is Estimated Cost of Reproduction New except as noted in Production System.

Amortization:

Amortization of Proven Acreage is based upon the depletion of gas content at the value per M C. F. fixed in Valuation Report as of December 31, 1923. Amortization of Unproven Acreage is based upon the average length of time during which the Company has held unproven acreage before abandoning it.

Amortization of Physical Property has been based upon the Deteriorated value of the Property which the Company will not be able to salvage.

[fol. 915] Depletion:

Depletion has been based upon the depletable value of wells and field lines as set forth in Valuation Report as of December 31, 1923.

Return:

In every calculation of return the deteriorated value only of Gas Wells has been used.

Allocation to West Virginia:

Production System units have been considered on basis of total gas sold.

Transmission System Expenses, Depreciation, Amortization and Return on Investment have been allocated to West Virginia on basis of gas sales, except where pipe lines are concerned. In the case of pipe lines the allocation has been made on the basis of miles of main located in West Virginia and Kentucky, excluding the section of Kentucky extending North and West from the State Line along the Ohio River. This system has been considered as handling all gas sold except field sales. The balance of the system in Kentucky and the system in Ohio have been considered as handling only the gas sold along the Ohio River in Kentucky and in Ohio. In other words, the gas sold in the last named section is considered as having been handled twice.

Distribution System property and expenses are as actually located or segregated in the various distribution plants.

Working Capital is allocated on the basis of expenses incurred in operating the plant in each State and system.

UEBELACKER EXHIBIT No. 8—Continued

[fol. 916] United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales Year 1923, as Adjusted to Allow for Effect Increased Rates on Domestic Consumption in West Virginia

Valuation Basis Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Return at 8 per Cent

Also Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

	Cost per M reproduction new		Cost per M less observed deterioration	
Expense:				
Production	$0.04790		$0.04790	
Transmission	.01300		.01300	
		$0.06090		$0.06090
Depreciation:				
Production	.00432		.00432	
Transmission	.01280		.01280	
General (Less General in Distribution)	.00044		.00044	
		.01756		.01756

UEBELACKER EXHIBIT No. 8—Continued

	Cost per M reproduction new		Cost per M less observed deterioration	
Return:				
Production	.08402		.08249	
Transmission	.02776		.02357	
General (Less General in Distribution)	.00107		.00094	
Working Capital—Production	.00118		.00118	
" " —Transmission	.00030		.00030	
		.11433		.10848
Amortization:				
Proven Acreage	.04164		.04164	
Unproven "	.00667		.00667	
Production System (Plant not Depletable)	.00415		.00415	
Transmission System	.01593		.01593	
General Property (Less General in Distribution)	.00033		.00033	
		.06872		.06872
Depletion		.03420		.03420
Total City Gate Rate		$0.29571		$0.28986
Distribution:				
Expense	.03336		.03336	
Depreciation—Distribution Property	.00940		.00940	
" —General Property	.00108		.00108	

Return—Distribution Property	.02691		.02259	
" —General Property	.00175		.00161	
" —Working Capital	.00081		.00081	
Amortization—Distribution Property	.01669		.01669	
" —General Property	.00022		.00022	
		.09022		.08576
Total Distribution Rate		$0.38593		$0.37562

[fol. 917] United Fuel Gas Company, Inc.

Details of Analysis of Expenses and Return on Investment Adjusted to Allow for Effect of Increased Rates and Also Adjusted for 3% Deduction for Gasoline Operation

Production Expenses:	Total	Allocated to W. Va.
Total Expenses	$2,254,561	
Less Reduction in Gas Purchased	138,599	
	$2,215,962	$2,215,962
Less 3% for Gasoline Operation		66,479
Balance		$2,149,483
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0.04790

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UEBELACKER EXHIBIT No. 8—Continued

	Allocated to W. Va.
Transmission Expenses:	
Trans. Lines and Comp. Stations (Handling Wet Gas)	$394,225
Balance (Handling Dry Gas)	183,189
Total	$577,414
Les 3% for Gasoline Operation	11,827
Balance	$565,587
Dividing this balance by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F.	$0.01300
Depreciation (Annual Amount of Depreciation):	
Production System	$199,819
Less 3% for Gasoline Operation	5,995
Balance	$193,824
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F.	$0.00432

[fol. 918]

Transmission System—Trans. Lines and Comp. Stations (Handling Wet Gas)	$396,026
Balance (Handling Dry Gas)	172,719
Total	$568,745
Less 3% for Gasoline Operation	11,881
Balance	$556,864
Dividing this balance by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F.	$0.01280
General Property (Less General in Distribution)	$20,365
Less 3% for Gasoline Operation	611
Balance	$19,754
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F.	$0.00044

UEBELACKER EXHIBIT No. 8—Continued

	Allocated to W. Va.	
	New	Less deterioration
Return on Investment at 8%:		
Production System—Leasehold Valuation	$36,449,176	$36,449,176
Amount of Return	2,915,934	2,915,934
Production System—Balance	11,010,043	10,127,920
Amount of Return	880,803	810,234
Total Return	$3,796,737	$3,726,168
Less 3% for Gasoline Operation	26,424	24,307
Balance	$3,770,313	$3,701,861
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	$0 08402	$0 08249

[fol. 919]

Transmission System—Trans. Lines and Comp. Stations (Handling Wet Gas)	$10,811,962	$9,156,604
Amount of Return	864,957	732,528
Balance Handling Dry Gas	4,604,245	3,933,654
Amount of Return	368,340	314,693
Total Return	$1,233,297	$1,047,221

Less 3% for Gasoline Operation	25,949	21,976
Balance	$1,207,348	$1,025,245
Dividing this balance by Total Sales of 43,491,876 M. C. F. results in unit per M. C. F. of	$0.02776	$0.02357
General Property (Less General in Distribution)	$621,578	$546,251
Amount of Return	49,726	43,701
Less 3% for Gasoline Operation	1,492	1,311
Balance	$48,234	$42,390
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	$0.00107	$0.00094
Working Capital—Production System	$683,475	$683,475
Amount of Return	54,678	54,678
Less 3% for Gasoline Operation	1,640	1,640
Balance	$53,038	$53,038
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	$0.00118	$0.00118

UEBELACKER EXHIBIT No. 8—Continued

	Allocated to W. Va.	
	New	Less deterioration
[fol. 920] Working Capital—Transmission System Trans. Lines and Comp. Stations (Handling Wet Gas)	$113,969	$113,969
Amount of Return	9,117	9,117
Balance (Handling Dry Gas)	52,969	52,969
Amount of Return	4,238	4,238
Total Amount of Return	$13,355	$13,355
Less 3% for Gasoline Operation	274	274
Balance	$13,081	$13,081
Dividing this balance by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F. of	$0.00030	$0 00030

Amortization (Annual Amount to be Amortized):	Total	Allocated to W. Va.
Leaseholds—Proven Acreage	.....	$1,868,524
Dividing this amount by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	.....	$0.04164
Leaseholds—Unproven Acreage	.....	$299,432
Dividing this amount by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	.....	$0 00667
Production System—Plant not Depletable	.....	$186,441

Dividing this amount by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0.00415
Transmission System		$692,894
Dividing this amount by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F. of		$0.01593
General Property (Less General in Distribution)		$14,597
Dividing this amount by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0.00033
[fol. 921] Depletion:		
Total Amount of Annual Amount of Depletion		$1,582,266
Less 3% for Gasoline Operation		47,468
Balance		$1,534,798
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0.03420
Total Expense	$399,860	$281,208
Distribution:		
Divided by Sales through Distribution Plants of 8,428,996 M. C. F. results in unit per M. C. F. of		$0.03336
Depreciation (Annual Amount of Depreciation) Direct Property		$79,212
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of		$0.00940
General Property		$9,138
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of		$0.00108

UEBELACKER EXHIBIT No. 8—Continued

	Allocated to W. Va.	
Return on Investment at 8%:	New	Less deterioration
Direct Property	$2,835,719	$2,380,622
Amount of Return	226,858	190,450
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	0 02691	0 02259
[fol. 922] General Property	$184,641	$169,558
Amount of Return	14,771	13,565
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	$0 00175	$0 00161
Working Capital	85,000	85,000
Amount of Return	6,800	6,800
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	0 00081	0 00081

	Total	Allocated to W. Va.
Amortization (Annual Amount of Amortization):		
Direct Property	$140,722	
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	0 01669	
General Property	1,895	
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	0 00022	

[fol. 923] United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales Year, 1923 as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923

Return at 10 per Cent

Also Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

Expense:	Cost per M reproduction new		Cost per M less observed deterioration	
Production	$0.04790		$0.04790	
Transmission	.01300		.01300	
		$0.06090		$0.06090
Depreciation:				
Production	.00432		.00432	
Transmission	.01280		.01280	
General (Less General in Distribution)	.00044		.00044	
		.01756		.01756

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UEBELACKER EXHIBIT No. 8—Continued

	Cost per M reproduction new		Cost per M less observed deterioration	
Return:				
Production	.10502		.10311	
Transmission	.03470		.02947	
General (Less General in Distribution)	.00134		.00118	
Working Capital—Production	.00148		.00148	
" " —Transmission	.00038		.00038	
		.14292		.13562
Amortization:				
Proven Acreage	.04164		.04164	
Unproven "	.00667		.00667	
Production System (Plant not Depletable)	.00415		.00415	
Transmission System	.01593		.01593	
General Property (Less General in Distribution)	.00033		.00033	
		.06872		.06872
Depletion		.03420		.03420
Total City Gate Rate		$0.32430		$0.31700
Distribution:				
Expense	.03336		.03336	
Depreciation—Distribution Property	.00940		.00940	
" —General Property	.00108		.00108	

Return—Distribution Property	.03364		.02824	
" —General Property	.00219		.00201	
" —Working Capital	.00101		.00101	
Amortization—Distribution Property	.01669		.01669	
" —General Property	.00022		.00022	
		.09759		.09201
Total Distribution Rate		$0 42189		$0 40901

[fol. 924] United Fuel Gas Company, Inc.

Details of Analysis of Expenses and Return to Investment Adjusted to Allow for Effect of Increased Rates, and Also Adjusted for 3% Deduction for Gasoline Operation

Production Expenses:	Total	Allocated to W. Va.
Total Expenses	$2,354,561	
Less Reduction in Gas Purchased	138,599	
	$2,215,962	$2,215,962
Less 3% for Gasoline Operation		66,479
Balance		$2,149,483
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0 04790

UEBELACKER EXHIBIT No. 8—Continued

	Allocated to W. Va.
Transmission Expenses:	
Trans. Lines and Comp. Stations (Handling Wet Gas)	$394,225
Balance (Handling Dry Gas)	183,189
Total	$577,414
Less 3% for Gasoline Operation	11,827
Balance	$565,587
Dividing this balance by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F.	$0 01300
Depreciation (Annual Amount of Depreciation):	
Production System	$199,819
Less 3% for Gasoline Operation	5,995
Balance	$193,824
Dividing this balance by Total Sales of 44,875,893 M. C. F. results in unit per M. C. F.	$0 00432
[fol. 925] Transmission System—Trans. Lines and Comp. Stations (Handling Wet Gas)	$396,026
Balance (Handling Dry Gas)	172,719
Total	$568,745

Less 3% for Gasoline Operation	11,881
Balance	$556,864
Dividing this balance by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F.	$0.01280
General Property (Less General in Distribution)	$20,365
Less 3% for Gasoline Operation	611
Balance	$19,754
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F.	$0.00044

Return on Investment at 10%:	Allocated to W. Va.	
	New	Less deterioration
Production System—Leasehold Valuation	$36,449,176	$36,449,176
Amount of Return	3,644,918	3,644,918
Production System—Balance	11,010,043	10,127,920
Amount of Return	1,101,004	1,012,792
Total Return	$4,745,922	$4,657,710
Less 3% for Gasoline Operation	33,030	30,384
Balance	$4,712,892	$4,627,326

UEBELACKER EXHIBIT No. 8—Continued

	Allocated to W. Va.	
	New	Less deterioration
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	$0 10502	$0 10311
[fol. 926] Transmission System—Trans. Lines and Comp. Stations (Handling Wet Gas)	$10,811,962	$9,156,604
Amount of Return	1,081,196	915,660
Balance Handling Dry Gas	4,604,245	3,933,654
Amount of Return	460,425	393,366
Total Return	$1,541,621	$1,309,026
Less 3% for Gasoline Operation	32,436	27,470
Balance	$1,509,185	$1,281,556
Dividing this balance by Total Sales of 43,491,876 M. C. F. results in unit per M. C. F. of	$0 03470	$0 02947
General Property (Less General in Distribution)	$621,578	$546,251
Amount of Return	62,158	54,625
Less 3% for Gasoline Operation	1,865	1,639
Balance	$60,293	$52,986

Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	$0 00134	$0 00118
Working Capital—Production System	$683,475	$683,475
Amount of Return	68,348	68,348
Less 3% for Gasoline Operation	2,050	2,050
Balance	$66,298	$66,298
Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of	$0 00148	$0 00148
[fol. 927] Working Capital—Transmission System Trans. Lines and Comp. Stations (Handling Wet Gas)	$113,969	$113,969
Amount of Return	11,397	11,397
Balance (Handling Dry Gas)	52,969	52,969
Amount of Return	5,297	5,297
Total Amount of Return	$16,694	$16,694
Less 3% for Gasoline Operation	342	342
Balance	$16,352	$16,352
Dividing this balance by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F. of	$0 00038	$0 00038

UEBELACKER EXHIBIT No. 8—Continued

	Total	Allocated to W. Va.
Amortization (Annual Amount to be Amortized):		
Leaseholds—Proven Acreage		$1,868,524
Dividing this amount by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0.04164
Leaseholds—Unproven Acreage		$299,432
Dividing this amount by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0.00667
Production System—Plant not Depletable		$186,441
Dividing this amount by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0 00415
Transmission System		$692,894
Dividing this amount by Total Sales less Field Sales of 43,491,876 M. C. F. results in unit per M. C. F. of		$0 01593
General Property (Less General in Distribution)		$14,597
Dividing this amount by Total Sales of 44,875,983 M. C. F. results in [fol.928] unit per M. C. F. of		$0 00033
Depletion:		
Total Amount of Annual Amount of Depletion		$1,582,266
Less 3% for Gasoline Operation		47,468
Balance		$1,534,798

Dividing this balance by Total Sales of 44,875,983 M. C. F. results in unit per M. C. F. of		$0.03420
Total Expense	$399,860	$281,208
Distribution:		
Divided by Sales through Distribution Plants of 8,428,996 M. C. F. results in unit per M. C. F. of		$0.03336
Depreciation (Annual Amount of Depreciation) Direct Property		$79,212
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of		$0.00940
General Property		$9,138
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of		$0.00108

Return on Investment at 10%:	Allocated to W. Va. New	Allocated to W. Va. Less deterioration
Direct Property	$2,835,719	$2,380,622
Amount of Return	283,572	238,062
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	0.03364	0.02824
[fol. 929] General Property	$184,641	$169,558
Amount of Return	18,464	16,956
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	$0.00219	$0.00201
Working Capital	85,000	85,000
Amount of Return	8,500	8,500
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	$0.00101	$0.00101

UEBELACKER EXHIBIT No. 8—Continued

Amortization (Annual Amount of Amortization):	Total	Allocated to W. Va.
Direct Property	$140,722	
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	0 01669	
General Property	1,895	
Divided by Sales of 8,428,996 M. C. F. results in unit per M. C. F. of	0 00022	

[fol. 930]

United Fuel Gas Company, Inc.

Revenue, Expenses, and Return on Investment

Revenue, as Indicated; Expenses, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923; also Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

West Virginia Distribution

Revenue:	No. of consumers	Average consumption per consumer (c. f.)	Quantity of gas sold (M c. f.)	Rate per M c. f.	Revenue
Domestic	32,566	112,000	3,647,392	38.49¢ (av.)	$1,404,207
Industrial	68	.....	4,781,604	23 41¢ (")	1,119,552
Total Gas Earnings			8,428,996		$2,523,579

Miscellaneous Income		7,500
Total Gross Income		$2,531,079
Expense:		
Production	$403,735	
Transmission	109,614	
Distribution	281,208	
Total	$794,557	
Depreciation:		
Production	$36,406	
Transmission	107,924	
Distribution	79,212	
General Property (Distribution System)	9,138	
" " (Balance)	3,710	
Total	$236,390	

UEBELACKER EXHIBIT No. 8—Continued

Amortization:		
Proven Acreage	$350,963	
Unproven "	56,242	
Production System (Plant not Depletable)	35,019	
Transmission "	134,287	
Distribution "	140,722	
General Property (Distribution System)	1,895	
" " (Balance)	2,742	
Total	$721,870	
Depletion:		
Total Operation Expense	288,280	
Net Income		2,041,097
		$489,982

[fol. 931] United Fuel Gas Company, Inc.

Revenue, Expenses, and Return on Investment

Revenue, as Indicated; Expenses, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923; also Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

West Virginia Distribution

Valuation:	New	Less observed deterioration
Production	$8,852,178	$8,691,462
Transmission	2,924,891	2,483,732
Distribution	2,835,719	2,380,622
General—Distribution System	184,641	169,558
" —Balance	113,248	99,524
Working Capital—Production	124,525	124,525
" " —Transmission	31,691	31,691
" " —Distribution	85,000	85,000
Total Valuation	$15,151,893	$14,066,112
Per Cent Return on Valuation	3.234%	3.483%

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[fols. 932 & 933] UEBELACKER EXHIBIT No. 8A

United Fuel Gas Company, Incorporated

West Virginia Distribution

Analyses of Expenses and Return on Investment per M C. F. and in Total

Allocated to Domestic and Industrial Business on Basis of Maximum Demand

Expenses and Sales, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia; and Also Adjusted by Deduction of 3% of Expenses and Property Handling Natural Gas With Gasoline Content

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration

[fol. 934] United Fuel Gas Company, Inc.

Notes on Analyses of Expenses and Return on Investment Maximum Demand Basis

Allocation on Demand Responsibility:

Expenses (except production expenses), depreciation, amortization (except leaseholds and natural gas rights) and depletion charges, return on investment and valuation of property, going to make up the city gate rate, have been allocated to the domestic business and industrial business in proportion to the maximum demand of each. The maximum demand responsibility of each has been measured by the quantity of gas taken in West Virginia by the domestic and industrial consumers in the four coldest three-day periods in the years 1922, 1923 and January 1924. This results in 68 per cent of the above being charged to domestic business and 32 per cent to industrial business after considering the effect of increased rates on domestic consumption. Production expenses and amorti-

zation of leaseholds and natural gas rights have been allocated on basis of gas sales.

Distribution charges have been allocated upon the basis of estimated cost of service to the domestic and industrial consumers respectively. This estimate results in 90 per cent of distribution charges being made to domestic business and 10 per cent to industrial business.

The amounts which have been allocated in accordance with the above are the same as shown in the details attached [fol. 935] to statements entitled: Analyses of Expenses and Return on Investment per M C. F. and in Total; Expenses and Sales, Year 1923, as adjusted to allow for effect of increased rates on domestic consumption in West Virginia; and also adjusted by deduction of 3 per cent of expenses and property handling natural gas with gasoline content.

[fol. 936] UEBELACKER EXHIBIT 8A—Continued

United Fuel Gas Company, Inc.

Analysis of Expenses and Return on Investment Based on Expenses and Sales, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923; also Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales, West Virginia Distribution

Return at 8 per Cent

	Domestic		Industrial	
Expense:	New	Cost per M less deterioration	New	Cost per M less deterioration
Production	$0.04790	$0.04790	$0.04790	$0.04790
Transmission	.02044	.02044	.00734	.00734
Total	.06834	.06834	.05524	.05524
Depreciation:				
Production	.00679	.00679	.00244	.00244
Transmission	.02012	.02012	.00722	.00722

General (Less General in Distribution)	.00069	.00069	.00025	.00025
Total	.02760	.02760	.00991	.00991
Return:				
Production	.13203	.12963	.04739	.04653
Transmission	.04362	.03704	.01566	.01330
General (Less General in Distribution)	.00169	.00148	.00061	.00053
Working Capital—Production	.00186	.00186	.00067	.00067
" " —Transmission	.00047	.00047	.00017	.00017
Total	.17967	.17048	.06450	.06120
Amortization:				
Proven Acreage	.04164	.04164	.04164	.04164
Unproven "	.00667	.00667	.00667	.00667
Production System (Plant not Depletable)	.00653	.00653	.00234	.00234
Transmission System	.02504	.02504	.00899	.00899
General Property	.00051	.00051	.00018	.00018
Total	.08039	.08039	.05982	.05982
Depletion	.05375	.05375	.01929	.01929
Total City Gate Rate	$0.40975	$0.40056	$0.20876	$0.20546

UEBELACKER EXHIBIT 8A—Continued

	Domestic		Industrial	
Distribution:	New	Cost per M less deterioration	New	Cost per M less deterioration
Expense	.06939	.06939	.00588	.00588
Depreciation—Distribution Property	.01955	.01955	.00166	.00166
" —General "	.00225	.00225	.00019	.00019
Return —Distribution "	.05598	.04699	.00474	.00398
" —General "	.00364	.00335	.00031	.00028
" —Working Capital	.00168	.00168	.00014	.00014
Amortization—Distribution Property	.03472	.03472	.00294	.00294
" —General "	.00047	.00047	.00004	.00004
Total	$0.18768	$0.17840	$0.01590	$0.01511
Total Distribution Rate	$0.59743	$0.57896	$0.22466	$0.22057

[fol. 937] Return at 10 per Cent

Expense:				
Production	$0.04790	$0.04790	$0.04790	$0.04790
Transmission	.02044	.02044	.00734	.00734
Total	.06834	.06834	.05524	.05524

Depreciation:				
Production	.00679	.00679	.00244	.00244
Transmission	.02012	.02012	.00722	.00722
General (Less General in Distribution)	.00069	.00069	.00025	.00025
Total	.02760	.02760	.00991	.00991
Return:				
Production	.16504	.16204	.05924	.05817
Transmission	.05453	.04631	.01957	.01662
General (Less General in Distribution)	.00211	.00186	.00076	.00067
Working Capital—Production	.00232	.00232	.00083	.00083
" " —Transmission	.00059	.00059	.00021	.00021
Total	.22459	.21312	.08061	.07650
Amortization:				
Proven Acreage	.04164	.04164	.04164	.04164
Unproven "	.00667	.00667	.00667	.00667
Production System (Plant not Depletable)	.00653	.00653	.00234	.00234
Transmission System	.02504	.02504	.00899	.00899
General Property	.00051	.00051	.00018	.00018
Total	.08039	.08039	.05982	.05982
Depletion	.05375	.05375	.01929	.01929
Total City Gate Rate	$0.45467	$0.44320	$0.22487	$0.22076

UEBELACKER EXHIBIT 8A—Continued

	Domestic		Industrial	
Distribution:	New	Cost per M less deterioration	New	Cost per M less deterioration
Expense	06939	06939	00588	00588
Depreciation—Distribution Property	01955	01955	00166	00166
" —General "	00225	00225	00019	00019
Return —Distribution "	06997	05874	00593	00498
" —General "	00456	00418	00039	00035
" —Working Capital	00210	00210	00018	00018
Amortization—Distribution Property	03472	03472	00294	00294
" —General "	00047	00047	00004	00004
Total	$0 20301	$0 19140	$0 01721	$0 01622
Total Distribution Rate	$0 65768	$0 63460	$0 24208	$0 23698

[Ex. 60c]

United Fuel Gas Company, Inc.

Revenues, Expenses, and Return on Investment

Revenue as Indicated, Expenses Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia. Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923. Also Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales

West Virginia Distribution

	No. of consumers	Average consumption per consumer (cu. ft.)	Quantity of gas sold (M cu. ft.)	Rates	Domestic		Industrial	
						Revenue		Revenue
Revenue:								
Domestic	32,000	182,000	5,847,000	[illegible]		$3,[illegible]		
Industrial	68	[illegible]	4,781,000	[illegible]				$3,[illegible]
Miscellaneous Income	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
Total Income			9,628,000	[illegible]		$3,[illegible]		$3,[illegible]
Expenses:								
Production					$[illegible]		$[illegible]	
Transmission					[illegible]		[illegible]	
Distribution					[illegible]		[illegible]	
Total					$[illegible]		$[illegible]	

[illegible]

Uebelacker Exhibit 8A—Continued

Depreciation:				
Production	$24,756		$11,650	
Transmission	73,309		34,536	
Distribution	71,291		7,921	
General—Distribution System	8,224		914	
" —Balance	2,523		1,197	
Total	$180,102		$56,208	
Amortization:				
Proven Acreage	$151,869		$109,494	
Unproven Acreage	24,337		33,905	
Production System (Plant not Depletable)	23,913		11,246	
Transmission "	93,315		42,972	
Distribution "	126,659		14,972	
General Property—Distribution System	1,706		189	
" " —Balance	1,965		877	
Total	$423,555		$309,315	
Depletion	196,039		92,259	
Total Operating Expense		1,200,696		741,001
Net Income		$111,431		$378,551

[fol. 939] United Fuel Gas Company, Inc.

Revenue, Expenses and Return on Investment

Revenue, as Indicated; Expenses, Year 1923, as Adjusted to Allow for Effect of Increased Rates on Domestic Consumption in West Virginia

Valuation Basis: Estimated Cost of Reproduction New and Less Observed Deterioration as of December 31, 1923; also Adjusted by Deduction of 3 per Cent of Expenses and Property Handling Natural Gas with Gasoline Content

Allocation Based upon Maximum Demand Responsibility of Domestic and Industrial Sales

West Virginia Distribution

	Domestic		Industrial	
Valuation:	New	Less observed deterioration	New	Less observed deterioration
Production	$6,019,481	$5,910,193	$2,832,697	$2,781,267
Transmission	1,988,926	1,688,938	935,965	794,794
Distribution	2,552,147	2,142,560	283,572	238,062
General—Distribution System	166,177	152,602	18,464	16,956
" —Balance	77,009	67,676	36,239	31,848
Working Capital—Production	84,677	84,677	39,848	39,848
" " —Transmission	21,550	21,550	10,141	10,141
" " —Distribution	76,500	76,500	8,500	8,500
Total	$10,986,467	$10,144,696	$4,165,426	$3,921,416
Per Cent Return on Valuation	1 014%	1 098%	9 088%	9 653%

UEBELACKER EXHIBIT 8A—Continued

[fol. 940]

UEBELACKER EXHIBIT No. 11

Virginian Gasoline & Oil Company and Cabin Creek Gas Company

Gasoline Earnings for Year Ending December 31, 1923

Average Gross Price Received per Gallon		.1679
Gasoline Earnings		$3,013,860.53
Less: Gasoline Expense	$735,848.91	
General Expense & Taxes	87,901.58	
		823,750.49
Net Gasoline Earnings before Federal Taxes, Depletion and Depreciation		2,190,110.04
Federal Taxes	177,677.11	
Depreciation	145,884.50	
		323,561.61
Net Gasoline Earnings before deducting Royalties paid United Fuel Gas Co.		1,866 [illegible]
1/2 Net Gasoline Earnings before deducting Royalties paid United Fuel Gas Co. = $933,274.21 divided by total sales of 47,040,235 M Cu. Ft. =		$0.[illegible] Per M Cu. Ft.
Royalties paid by Gasoline Company = $367,941.70 divided by total sales of 47,040,235 M Cu. Ft. =		.00782 Per M Cu. Ft.

Gasoline Earnings for Year Ending April 30, 1924

Average Gross Price Received per Gallon		.1558
Gasoline Earnings		$2,853,299.89
Less: Gasoline Expense	$884,801.59	
General Expense	70,707.33	
General Taxes	14,659.67	
		970,168.59
Net Gasoline Earnings before Federal Taxes, Depletion and Depreciation		1,883,131.30
Federal Taxes	148,809.86	
Depreciation	141,331.29	
		290,141.15
Net Gasoline Earnings before deducting Royalty paid United Fuel Gas Co.		1,592,990.15
1/2 Net Gasoline Earnings before deducting Royalty paid United Fuel Gas Co. = $796,495.07 divided by total sales of 46,768,180 M Cu. Ft. =		$0.01700 Per M Cu. Ft.
Royalties paid by Gasoline Company = $335,336.22 divided by total sales of 46,768,180 M Cu. Ft. =		.00717 Per M Cu. Ft.

[fols. 942 & 943] Virginian Gasoline & Oil Company

Gasoline Earnings for a 12-Month Period During which the Quantity of Gasoline Sold in Year Ended April 30, 1924, was Sold at 14¢ Flat (Est.)

Gasoline Earnings		$2,564,431.66
Less: Gasoline Expense	$884,801.59	
General Expense	70,707.33	
General Taxes	14,659.67	
		970,168.59
Net Gasoline Earnings before Federal Taxes, Depletion and Depreciation		1,594,263.07
Federal Taxes	145,598.49	
Depreciation	141,331.29	
		286,929.78
Net Gasoline Earnings before deducting Royalty to United Fuel Gas Co.		1,307,333.29
1/2 Net Gasoline Earnings before deducting Royalty paid United Fuel Gas Co. = $653,666.65 divided by Total Sales of 47,040,235 M Cu. Ft. =		$0.01390 Per M Cu. Ft.
Royalties paid by Gasoline Company = $322,563.96 divided by total sales of 47,040,235 M Cu. Ft. =		.00686 Per M Cu. Ft.